VOL. V TORONTO, DECEMBER 1920 NO. 12

R 11 C4 U.S No. 12
Biological & Medical Serials

The Canadian Medical Monthly

LIBRARY FEB 20 1934 UNIVERSITY OF TORONTO

PUBLISHED UNDER THE DIRECTION OF
THE FOLLOWING BOARD OF EDITORS

Dr. H. E. ALEXANDER (Saskatoon, Sask.)
Dr. E. W. ALLIN (Edmonton, Alta.)
Dr. E. B. ALPORT (Regina, Sask.)
Dr. ALLEN BAINES, (Toronto, Ont.)
Dr. ALAN BROWN (Toronto, Ont.)
Dr. A. T. BOND (Ottawa, Ont.)
Dr. HERBERT A. BRUCE (Toronto, Ont.)
Dr. G. STEWART CAMERON, (Peterboro, Ont.)
Dr. JAMES COTTON (Toronto, Ont.)
Dr. W. W. CHIPMAN (Montreal, Que.)
Dr. MURDOCK CHISHOLM (Halifax, N.S.)
Dr. GORDON G. COPELAND (Toronto, Ont.)
Dr. ANDREW CROLL (Saskatoon, Sask.)
Dr. HERBERT K. DETWEILER (Toronto, Ont.)
Dr. GEO. E. EAKINS (Port Arthur, Ont.)
Dr. T. S. FARNCOMB (Trenton, Ont.)
Dr. ALEXANDER FORIN (Edmonton, Alta.)
Dr. F. J. R. FORSTER (Stratford, Ont.)
Dr. WILLIAM GOLDIE (Toronto, Ont.)
Dr. PERRY G. GOLDSMITH (Toronto, Ont.)
Dr. D. W. GRAHAM (Swift Current, Sask.)
Dr. C. P. HIGGINS (Victoria, B.C.)
Dr. E. E. KELLS (Regina, Sask.)
Dr. W. J. KNOX (Kelowna, B.C.)
Dr. H. I. KINSEY (Toronto, Ont.)
Dr. F. B. LEEDER (Victoria, B.C.)
Dr. WM. H. MACDONALD (Medicine Hat, Alta.)
Dr. E. O. MacDONALD (New Aberdeen, N.S.)
Dr. NEIL J. MacLEAN (Winnipeg, Man.)
Dr. R. J. MANION (Fort William, Ont.)
Dr. FRED. W. MARLOW (Toronto, Ont.)
Dr. J. D. McGUIGAN (Charlottetown, P.E.I.)
Dr. G. A. McLARTY (Toronto, Ont.)
Dr. NEIL McNEIL (Prince Rupert, B.C.)
Dr. JOHN P. MORTON (Hamilton, Ont.)
Dr. J. HEURNER MULLIN (Hamilton, Ont.)
Dr. GORDON W. MYLKS (Kingston, Ont.)
Dr. EDW. B. OLIVER (Fort William, Ont.)
Dr. W. E. SCOTT-MONCRIEFF (Victoria, B.C.)
Dr. E. R. SECORD (Brantford, Ont.)
Dr. J. SINCLAIR TAIT (St. John's, Nfld.)
Dr. B. P. WATSON (Toronto, Ont.)
Dr. ERNEST WILLIAMS (London, Ont.)

DECEMBER, 1920

Lederle BIOLOGICAL PRODUCTS

ARE INDISPENSIBLE IN THE DIAGNOSIS PREVENTION AND TREATMENT OF DISEASE

Descriptive Price List on application to our nearest office.

Gonococcus Glycerol-Vaccine
Stable and Effective

Advantages: 1. Will not deteriorate. 2. Free from autolytic products. 3. No toxic reaction

The types of cases reported to us as favorably influenced by Gonococcus Glycerol-Vaccine are chronic gonorrheal infections, including gonorrheal rheumatism, epididymitis, prostatitis and posterior urethritis.

Further information on request.

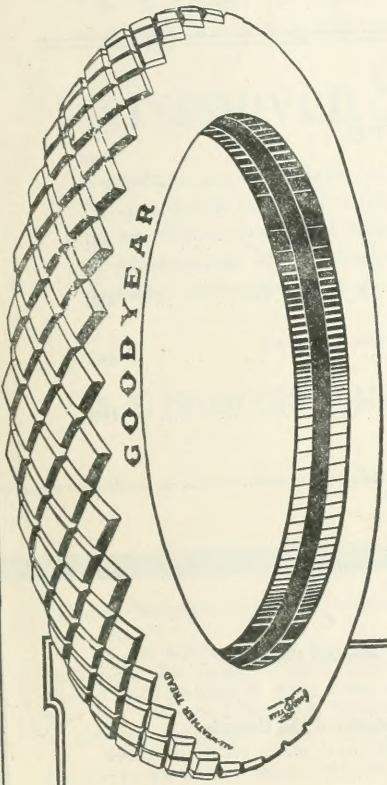
LEDERLE ANTITOXIN LABORATORIES

464 St. Catherine St., West MONTREAL
265 Portage Avenue WINNIPEG

THIRTY-FIVE CENTS THE COPY THREE DOLLARS THE YEAR

Supper's Ready
A great haste for supper
COWAN'S COCOA
Will be his reward

Goodyear Tire Mileage Costs You Less Than Before the War



Goodyear Tires cost you less per year or per mile than they did before the war.

The price of Goodyear Tires in that time has increased less than 2% on some sizes, and only 15% on any size—while most commodities have increased over 100%.

We have been able to keep down the price of tires largely because of Goodyear's economical system of distribution (direct from factory to Service Station, saving jobber's profit and reducing shipping cost).

This slight increase is overshadowed by the greater mileage made possible by increased Goodyear Quality and broader Goodyear Service.

Owners now report cost-per-mile much below that of five years ago.

You, too, can secure fair Goodyear prices and long Goodyear mileage by calling on the nearest Goodyear Service Station Dealer.

THE GOODYEAR TIRE & RUBBER CO.
OF CANADA, LIMITED

These are examples of Goodyear mileages above the average—mileages impossible six years ago. The increased Goodyear quality and broader Goodyear service which have made possible these greater mileages will also enable you to keep down your tire costs.

Owner	Mileage
Dr. D. I. Siegel, Toronto	11,000
P. P. Bergmann, Plum Coulee	10,000
D. Harvey, Coldwater	11,000
Mr. Johnston, Montreal	9,000
Jas. E. Boyle, South Porcupine	10,000
Harry Fitzgibbon, Cobourg	8,000
A. G. Austin, Wooler, Ont.	8,500
N. Montgomery, Brighton	9,000

Owner	Mileage
Harvey Clarke, Schomberg	12,000
J. E. Lamoir, Trenton	12,000
J. Vandrick, Drayton	11,500
Padget & Hay, Agincourt	8,200
C. H. Graham, Winnipeg	10,000
F. R. Burton, Hamilton	13,000
J. E. Waugh, Florenceville	13,000
S. H. Henderson, Findlater	20,000

Owner	Mileage
E. F. Fanquir, Ottawa	15,000
W. E. Robinson, London	13,000
McBride's Garage, Toronto	18,292
Chas. A. Evans, Halifax	16,000
Dr. H. H. Wilburn, Vancouver	12,000
Wm. Sinclair, Newcastle, N.B.	15,000
Townsend Livery, Ltd., Toronto	19,000

Owner	Mileage
H. D. Sims, Niagara Falls	17,000
A. Fraser, Edmonton	17,000
J. B. Weir, Vancouver	15,000
Western Fuel Co., Nanaimo	12,000
Nelson D. Porter, Ottawa	15,000
James Cross, Saskatoon	12,000
E. R. Fisher, Ottawa	17,000

GOODYEAR
MADE IN CANADA

THE CANADIAN MEDICAL MONTHLY

VOLUME V DECEMBER, 1920 NUMBER 12

CONTENTS

PAGE

EDITORIAL—

Vale! 481

To Our Editors 482

To Our Subscribers 482

To Our Advertisers 482

1. The Use of "Bipp" in Wounds and Osteomyelitis 483
W. A. Gardiner, M.D.

2. Obstruction of the Lacrymal Passages and Its Treatment 489
F. J. R. Forster, M.B.

3. Modern Methods at Millbank—The Royal Army Medical College ... 493

4. Progress Report of the Committee on Inter-relations of the Ontario Medical Association xvii

THIRTY-FIVE CENTS THE COPY *THREE DOLLARS THE YEAR*

Published at St. Martin's House, 70 Bond Street, Toronto, Canada

BY

THE MACMILLANS IN CANADA

Unless otherwise directed, all subscriptions commence with the current issue. It is impossible to furnish back numbers.

"One-Legged Therapy"

To attempt to treat Lues with arsenic alone is against reason, experience and the authority of expert clinicians. Arsenic requires the synergistic assistance of Mercury and in many cases of Iodides as well.

Arsenoven S.S.—2.0 Grammes

a combination of Dimethylarsenin (gr. 31) Mercury Biniodide (gr. 1/10) Sodium Iodide (gr.½) is therapeutically ideal and clinically demonstrated to be efficient, safe and economical. In ampoules only for intravenous administration which requires no preliminary preparation, entails the simplest technique, assures the most satisfactory results.

Literature and price list to physicians on request

S. S. PRODUCTS COMPANY PHILADELPHIA, PA.

Pneumo-Phthysine Chemical Company, Chicago, Ill.

Dear Sir:

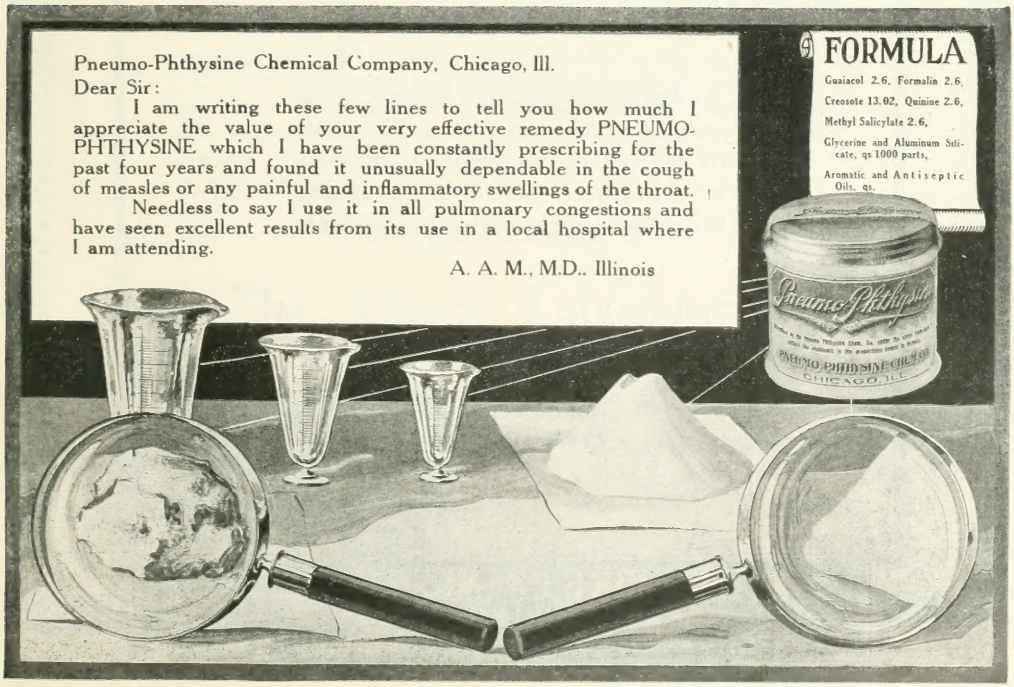
I am writing these few lines to tell you how much I appreciate the value of your very effective remedy PNEUMO-PHTHYSINE which I have been constantly prescribing for the past four years and found it unusually dependable in the cough of measles or any painful and inflammatory swellings of the throat.

Needless to say I use it in all pulmonary congestions and have seen excellent results from its use in a local hospital where I am attending.

A. A. M., M.D., Illinois

FORMULA

Guaiacol 2.6, Formalin 2.6, Creosote 13.02, Quinine 2.6, Methyl Salicylate 2.6, Glycerine and Aluminum Silicate, qs 1000 parts, Aromatic and Antiseptic Oils, qs.



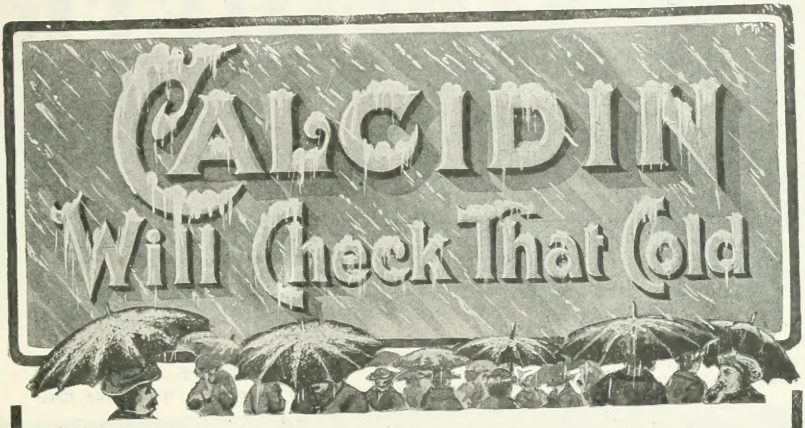
McCRIMMON'S FLUID

Most useful in cases of Infection, Discharging Sinuses, Indolent Ulcers, Ulceration in Malignant Diseases and Stomatitis

A surgical Dressing which has been proven satisfactory by many Surgeons. When tried in your own practice results will speak for themselves. We invite the Medical Profession to write us for sample bottle.

Sold through the Profession Only

McCRIMMON'S CHEMICALS LIMITED
MANUFACTURING CHEMISTS
TORONTO WINNIPEG VANCOUVER

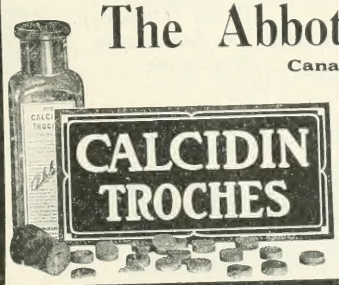


NOW'S the time to think of Calcidin. Now's the time to see to your supply, whether prescribing or dispensing. For head colds, grippe and bronchitis, so common in the fall and winter, here is a recourse that seldom disappoints. For catarrhal croup there is no better remedy, pushed quickly to effect. Have it ready!

With its 15 per cent. of available iodine Calcidin serves better in glandular enlargements, fibroids, and syphilitic conditions than the iodides, being well borne and quickly assimilated. Try it!

For throat soreness and irritation, with coughing and rasping, bear in mind CALCIDIN TROCHES. Also to be had with Anesthesin; dissolved in the mouth these afford almost instant relief by benumbing the mucosal surface. Both delightfully flavored and available in dispensing boxes of two dozen each if desired. Be prepared for a possible return epidemic of coughs and colds by ordering now.

Specify "Abbott's"

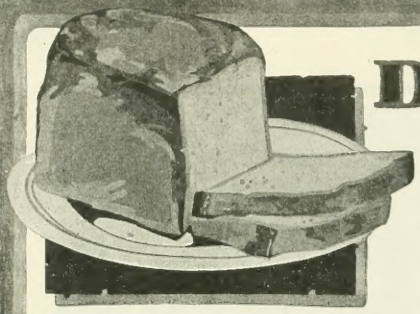


The Abbott Laboratories

Canadian Branch

Dept. 75

57 Colborne Street
Toronto



DIABETIC BREAD

100% Starch Free

And Palatable

Easily made in any home from

LISTERS PREPARED CASEIN **DIABETIC FLOUR**

(Self-rising)

30 boxes, enough for one month, sent direct $6.00; or 15 boxes $3.30

LISTER BROS., INC.

110 WEST 40TH STREET - - NEW YORK CITY

One box of Listers Flour makes one loaf of diabetic bread containing 57 grams protein and 18.6 grams fat, making 400 calories. Dividing this loaf into five slices gives each slice the food value of about one egg. The caloric value of this loaf is approximately equal to one pound of rice, one-half pound of whole wheat bread or one-half pound of broiled tenderloin steak.

W. LLOYD WOOD, *Canadian Agent*
64 and 66 Gerrard Street East, Toronto

DUNCAN, FLOCKHART & CO.'S
EDINBURGH and LONDON

CAPSULES

Put Up in Boxes of One Hundred Capsules Each

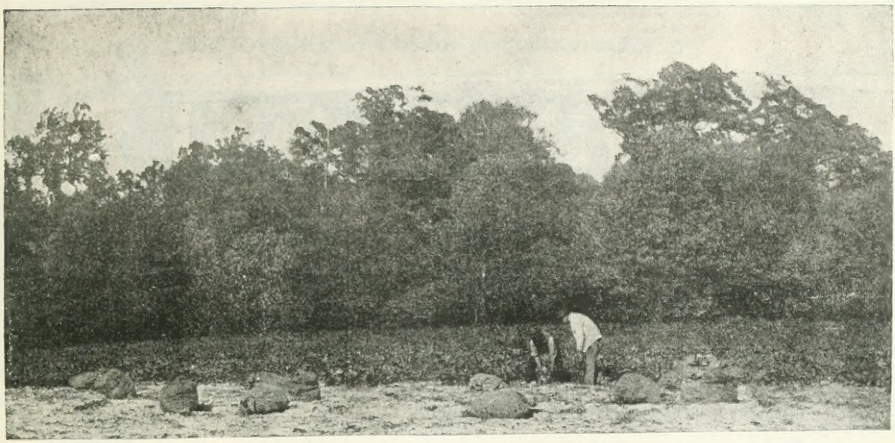
No. 107	Blaud (Duncan)	1 Pill	**No. 108**	Blaud (Duncan)	2 Pills
	Liq. Arsenicalis	2 Minims		Liq. Arsenicalis	2 Minims
	Strychnine	$\frac{1}{50}$ Grain		Strychnine	$\frac{1}{50}$ Grain

No. 109	Blaud (Duncan)	3 Pills
	Liq. Arsenicalis	2 Minims
	Strychnine	$\frac{1}{50}$ Grain

THESE COMBINATIONS ARE OF THE HIGHEST VALUE AS A GENERAL TONIC, ESPECIALLY FOR THE TREATMENT OF CONVALESCENTS AFTER FEVER

THEY MAY BE ORDERED THROUGH RETAIL DRUGGISTS
FULL LIST ON APPLICATION

R. L. Gibson, 88 Wellington Street West, Toronto



HARVESTING DIGITAL'S ON THE MULFORD DRUG FARMS, GLENOLDEN, PENNA.

DIGITOL

(WORD-MARK)

Digitol is a dependable and uniform Tincture of Digitalis—**U. S. P. Strength**—from which the vegetable fats have been extracted.

It is adjusted to a definite standard by a series of chemical and physiological assays.

Comparative tests by the U. S. Bureau of Hygiene (Bulletin 48, December, 1908) and the American Medical Association (A. M. A. Journal, September 13, 1913), have proved the activity, uniformity and superiority of Mulford Digitalis.

Digitol is produced from the leaves of Digitalis plants grown on the Mulford drug farms, and every step, from the selection of the seed to the finished product, is under scientific control.

It is furnished in one-ounce vials only, to insure against deterioration.

47119—M

H. K. MULFORD COMPANY, Philadelphia, U. S. A.

Mulford

THE PIONEER BIOLOGICAL LABORATORIES

W. LLOYD WOOD, Canadian Agent
64-66 Gerrard St., East, Toronto

HORMOTONE

A Pluriglandular Preparation of Proven Value

¶ Hormotone is a combination of those hormones, or internal secretions which cooperate in maintaining the dynamic force of the organism.

¶ Hormotone has a markedly stimulating effect on metabolism and oxidation and causes an increase in mental, nervous and muscular activity. It is a tonic of rare quality.

Formula: Hormotone contains the hormones of the thyroid (1/10 gr.), pituitary (1/20 gr.), ovary and testis.

INDICATIONS: Neurasthenia and all asthenic conditions; impotence, premature senility and the debilities of old age; menstrual disorders and climacteric disturbances; chronic cardiac cases with hypotension, circulatory stasis and cold extremities; convalescent and post-febrile weakness.

Hormotone Without Post-Pituitary

should be used instead of the regular formula in neurasthenia associated with high blood pressure.

Dosage: One or two tablets three times daily before meals.

¶ Hormotone is put up for physicians' prescriptions in bottles of 100 two and a half grain tablets.

These products can be obtained from your regular dealer or the following:

LYMANS LIMITED, MONTREAL and TORONTO
NATIONAL DRUG & CHEMICAL CO. (All Branches)

Canadian Agency: Lymans Ltd., Montreal

LITERATURE UPON REQUEST

G. W. CARNRICK COMPANY - 11 LAIGHT ST., NEW YORK, N.Y.

In a series of 200 cases treated in one of the London Hospitals, a "Negative Wassermann" was obtained in 80 per cent. of cases under observation, the reaction previously being "Post tive"

The Combined Treatment of Syphilis by

SUPSALVS

Stable Suppositories of Arsphenamine
(EHRLICH'S 606)

AND MERCURIAL INUNCTION

These Suppositories contain 0.10 grm. of "606" for rectal administration (also made with 0.03 gr. dose for children in box containing 6).

SIMPLE IN USE. RAPID AND EFFECTIVE ABSORPTION

Arsenic being found in the blood and urine 12 hours after administration.

PRODUCE NO UNDESIRABLE EFFECTS

At the International Congress of Medicine, Ehrlich stated that the biochemical action of "606" on spirochaetes is not direct but indirect, a third factor found in the body fluids being necessary. This success is explained by the well-known experiment of Levaditi: "If living treponemas be placed in a solution of Arsenobenzol (606) they continue to live in it. But if a trace of extract of liver be added to the mixture the treponemas are destroyed."

"If 606 has to be taken up and transformed **by the liver** in order to become toxic to the treponema, there is no better mode of absorption of the drug than **by way of the intestine**, since all the **veins of the intestines** join the **portal vein.** If this be the case no route could be more indirect and more unsatisfactory for active treatment than one that is not intestinal or not intravenous (i.e., prehepatic), since some of the drug must necessarily become fixed everywhere before the passage through the liver has activated it."—Dr. Sabouraud, Le Clinique (13-4-1913).

As a result of numerous clinical experiments, Dr. Bagrov, of Moscow, has arrived at the same conclusion, and recommends the rectal method of administration of 606.

Price, per box of 6 - - - - - - - - - - - - **$5.00**
Children's Dose - - - - - - - - - - - - **3.50**

The Combined Treatment of Syphilis with "Supsalvs" and "Mersalv" gives the best results

"MERSALV" contains 10 per cent. metallic mercury, which by special mechanical process is converted into the most minute state of subdivision possible. It is a non-greasy preparation of pleasant odor, and cleanly in application, supplied in white china pots sufficient for 30 days' treatment.

Carbuncles Boils Anthrax Acne Styes

and their Treatment by

Liquid External
2 ozs.

Ampoules 2c.c.
box of 8

In box of 80 tablets having a slightly metallic taste, not at all disagreeable.

An Oxide of Tin and Tin-metal, Free of Heat

STANNOXYL is perfectly harmless and in the opinion of authorities most competent to judge, is extraordinary efficacious, relapses are unknown. In the majority of cases a complete cure is effected by the fifth or sixth day.

Literature Price List on Application.

THE ANGLO-FRENCH DRUG COMPANY, LTD.

DANDURAND BUILDING - - - **MONTREAL**

McDUFFEE BROS., 76 Cordova Street : : **Vancouver, B.C.**

For correcting intestinal disorders in infants and children

Feeding tests conducted at the Hospital for Sick Children, Toronto, have demonstrated the value of Protein Milk Powder (C.M.P.). These tests, covering many months, have shown its effectiveness as a corrective food for infants in cases of fermentative diarrhœa, infectuous diarrhœa, and the preliminary corrective stages of marasmus; and also as an adjunct to breast-feeding in cases of dyspepsia.

Older children suffering from chronic intestinal indigestion have shown marked improvement where Protein Milk Powder has been used. For adults it may be used where buttermilk is ordinarily prescribed.

Protein Milk Powder (C.M.P.) is the result of exhaustive research and tests which prove beyond doubt its uniform effectiveness when used in place of the liquid protein milk so difficult to prepare by laboratory methods.

Pamphlets and directions will be gladly sent to any interested physician. Write to our nearest office.

Protein Milk Powder (C.M.P.) is not sold by druggists, but is obtainable only direct from us.

We sell it direct to hospitals and physicians, or to mothers on the presentation of an order from a physician, though we would much rather the physician procured it himself.

No directions for use are printed on the label so that it cannot be used without the advice of a doctor.

Canadian Milk Products, Limited

10-12 ST. PATRICK STREET
TORONTO

132 James Avenue East
WINNIPEG

81 Prince William Street
ST. JOHN, N.B

10 Ste. Sophie Lane
MONTREAL

"GIVE BOOKS FOR CHRISTMAS is apt enough but "while you are at it GIVE THE BEST BOOKS" is more to the point!

H. G. Wells's OUTLINE OF HISTORY $12.00 the set

Not in our twenty year's experience in Canada have we ever announced so indisputably necessary a book. It is a book for this year, next year and all the years to come. Judging by our advance sales we shall sell two thousand sets before Christmas! Two volumes, copiously illustrated.

FICTION THAT COUNTS

May Sinclair's New Novel.

THE ROMANTIC.

Miss Sinclair has no peer, perhaps, in the artistry which characterizes all her character study. "The Romantic" is an intimate view of the thoughts, ideals and emotions of a young man and a young woman, revealed through incidents that are instinct with the dramatic. $2.25

Ernest Poole's New Novel.

BLIND.

It is "a story of these times" which interprets with singular insight the great age through which we are passing. Nationally we are groping, feeling our way from the chaos of the last five years to the light dimly hinted at ahead. $2.75

Stacy Aumonier's New Novel.

ONE AFTER ANOTHER.

Introducing: Tom Purbeck, good-tempered, good-hearted and easy-going, and Laura, his sister, wilful and passionate, with a gift for the violin.
The story follows the lives of a brother and sister from childhood to maturity. $2.25

By Mr. and Mrs. H. de Vere Stacpoole.

THE MAN WHO FOUND HIMSELF.

A diverting story concerning an elderly and very proper gentleman whose mind quite suddenly reverts to the workings of his youth and prompts him to commit the most amazing indiscretions. $2.00

By J. S. Fletcher.

DEAD MAN'S GOLD.

No wonder that President Wilson, recovering from his sustained illness, found the mystery stories of J. S. Fletcher a mainstay during convalescence! $2.00

By Ross Tyrrell.

THE PATHWAY OF ADVENTURE.

A distinctly unusual novel. That anybody could resist going on from chapter to chapter till the end is reached, we cannot believe. $2.00

THE STRANGER.

A rich color of the East floods this story and adds a delightfully fantastic note to the everyday lives of the young Americans in New York's Bohemian section. $2.25

A Novel by Edgar Lee Masters.

MITCH MILLER.

Not since Mark Twain's immortal "Huck" Finn and Tom Sawyer captivated their tens of thousands, has there been a story of boyish life comparable to this distinguished first novel by a distinguished poet. $3.50

A New Novel by Sir Harry Johnston, author of "The Gay-Dombeys."

MRS. WARREN'S DAUGHTER.

The Last Novel Jack London Wrote.

HEARTS OF THREE.

By Jack London, $2.75

A Most Important Novel by Floyd Dell.

MOON CALF.

Surely the most striking note in American fiction in many years. $2.50

By E. M. Delafield.

TENSION.

A novel by the distinctly brilliant author of "The Pelicans." $2.25

UNUSUAL POETRY

ENSLAVED: AND OTHER POEMS.

John Masefield, magnificent as has been his work hitherto, has perhaps never reached the heights to which he climbs in this latest epic verse. It is a book to be treasured. $2.25

A Bit of England is

REYNARD THE FOX.

John Masefield's Narrative Poem. Special Gift Edition. $6.50

RIGHT ROYAL. By John Masefield.

This is a companion poem to "Reynard the Fox," and will become equally classic. 2.25

By Sara Teasdale.

FLAME AND SHADOW. $2.25

A Significant Edgar Masters Book.

THE DOMESDAY BOOK. $5.00

BEAUTIFUL GIFT BOOKS

A NEW RACKHAM BOOK.

By James Stephens; Illustrated by Arthur Rackham.

IRISH FAIRY TALES.

Mr. Stephens' sense of humor and Mr. Rackham's interpretative qualities make a feast of delight. We must believe in fairies, after all! Richly illustrated. $6.50

THE CANADIAN FRONT IN FRANCE AND FLANDERS.

It is the work of two Canadian brothers, sons of the late artist, Alfred Sheldon-Williams, both of whom have fought for the Empire. The book is the story of the Canadian army; the part played by it in the drama of Armageddon. It is told by the younger brother, Ralt. His writing, vividly descriptive as it is, is enhanced by the sympathetic cooperation of the artist brother's illustrations. Inglis Sheldon-Williams was commissioned by the Canadian Government to assist in immortalizing Canada's part in the Great War. Containing 32 full-page illustrations $8.50

Selected and edited by Captain Martin Hardie and Arthur K. Sabin.

WAR POSTERS.

An interesting and permanently valuable collection of reproductions of posters issued by all the belligerent powers. Cloth, 4to. $8.50

MR. RUDYARD KIPLING'S PROSE AND VERSE.

Twenty-eight titles: twenty-two prose and six poetry. In three bindings—

Uniform cloth .....$2.50 a volume
Pocket cloth ... . 2.00 a volume
Pocket leather ..... 2.50 a volume

A set or a volume makes a Christmas gift which is perennially welcome.

One of the few out of the many war memoirs that is a really great book is

THE LIFE OF LORD KITCHENER

3 de luxe volumes - $16.50 the set

Lovers of Biography from coast to coast have been waiting for the two concluding volumes of

THE LIFE OF BENJAMIN DISRAELI

Volumes V and VI - each $ 6.75
The set of six volumes - $10.50

THE MACMILLANS IN CANADA, TORONTO

DIGITALIS

(Upsher Smith)

When a life hangs by a thread and the thread breaks, then it is too late to replace it with a rope. Many lives depend very often on the prompt action and potency of your DIGITALIS.

You cannot afford to take chances—the absolute purity and strength must be beyond doubt.

In order to secure the safety of your patient and your own piece of mind insist on having your DIGITALIS prescriptions filled with UPSHER SMITH'S DIGITALIS.

This product is physiologically tested by the Hatcher Cat method. The tests are made by one of the leading pharmacologists of North America and a most accurate picture of the heart action of the drug is recorded by means of the electro-cardiograph.

Upsher Smith Ph.C.

ST. PAUL - MINNESOTA - U.S.A.

Canadian Agents: Lymans Bros. & Co., Toronto
Lymans Limited, Montreal

DIGITALIS

(Upsher Smith)

Every hospital should specify UPSHER SMITH'S DIGITALIS because :

It is in a class by itself.

It is physiologically tested by the Hatcher Cat method and adapted to the Eggleston dose method.

It is always uniform in strength.

It is issued in packages of convenient size for use in the wards.

It will satisfy the physician, because its administration is followed by definite action on the heart.

No other grade of Digitalis on the market is prepared with the extreme skill and care that UPSHER SMITH'S DIGITALIS receives.

UPSHER SMITH'S DIGITALIS is grown in Minnesota where the climate and soil is especially adapted for the production of this drug.

The leaf is cut by hand and dried quickly the same day at a moderate temperature. Then it is cleaned from inorganic purities and, after the stock and midrib has been removed, it is stored in air tight cans.

The result is that the best of the leaf and the part richest in glucosides is preserved from decomposition in a form that represents the full activity of the drug.

Upsher Smith Ph. C.

ST. PAUL - MINNESOTA - U.S.A.

Canadian Agents: Lymans Bros. & Co., Toronto
Lymans Limited, Montreal

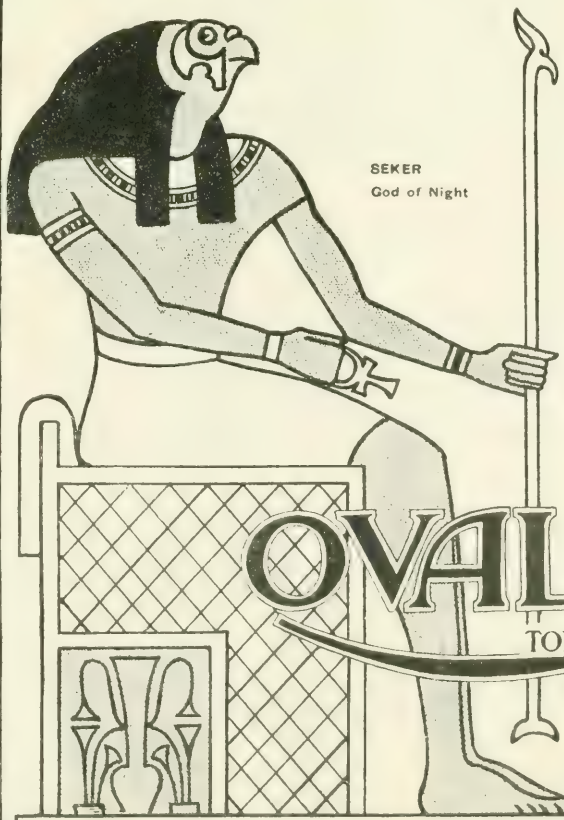
FOR SLEEPLESSNESS

AVOID A LATE HEAVY MEAL AND TAKE A CUP OF "OVALTINE" IMMEDIATELY BEFORE RETIRING.

THIS PRESCRIPTION HAS PROVED IN NUMBERLESS CASES OF GREAT HELP IN SECURING LIGHT, HEALTHY AND REFRESHING PERIODS OF SLEEP.

"OVALTINE" IS HIGHLY NOURISHING, BUT CAUSES NO ACTIVE DIGESTIVE FUNCTION. IT IS PREPARED BY SIMPLY DISSOLVING THE GRANULES IN HOT MILK OR MILK AND WATER. THERE IS NO TROUBLESOME COOKING OR OTHER PREPARATION.

Manufactured by A. WANDER Ltd., 45, Cowcross Street, London, England.
Toronto 27, Front Street East (Main 7768).



SEKER
God of Night

"Ovaltine" is composed of a highly concentrated extract of the vitalising and building-up properties contained in Malt, Milk and Eggs, and presents the essential elements of diet in well-balanced proportions.

Supplied by all Druggists. Specially low prices are quoted to hospitals and kindred institutions on direct application to the Toronto Office.

OVALTINE
TONIC FOOD BEVERAGE

C M 11.

SPIROCIDE

(MERCUPRESSEN)

A New and Successful Treatment of Syphilis
By Fumigation and Inhalation

Spirocide is a carefully balanced combination of mercury, copper and vegetable matter, compressed into a mass weighing approximately 10 grams. This mass when ignited, burns slowly and requires 15 to 30 minutes for complete combustion.

Spirocide is the safest and most convenient form in which mercury can be administered.

Spirocide does not cause pain, and its use is attended by the least possible discomfort to the patient.

Spirocide can be administered in the office and the home; does not interfere with the patient's work or usual activities.

Spirocide is indicated in all stages of syphilis, primary, secondary and tertiary, and in all its complications or sequelæ.

Interesting case reports, together with the names of medical men who are using Spirocide, will be sent to physicians on request.

THE SPIROCIDE CORPORATION

153 West 23rd Street **New York City**

Testogan
For Men

Thelygan
For Women

Formula of Dr. Iwan Bloch

After five years' clinical experience these products stand as proven specifics.

Indicated in Sexual Impotence and Insufficiency of the Sexual Hormones

They contain SEXUAL HORMONES, i.e., the hormones of the reproductive glands and of the glands of internal secretion.

Special Indications for Testogan:

Sexual infantilism and eunuchoidism in the male. Impotence and sexual weakness. Climacterium virile. Neurasthenia. hypochondria.

Special Indications for Thelygan:

Infantile sterility. Underdeveloped mammæ, etc. Frigidity. Sexual disturbances in obesity and other metabolic disorders. Climacteric symptoms, amenorrhea, neurasthenia, hypochondria, dysmenorrhea.

DIRECTIONS: A tablet three times daily after meals. (Also in ampules for intragluteal injections)

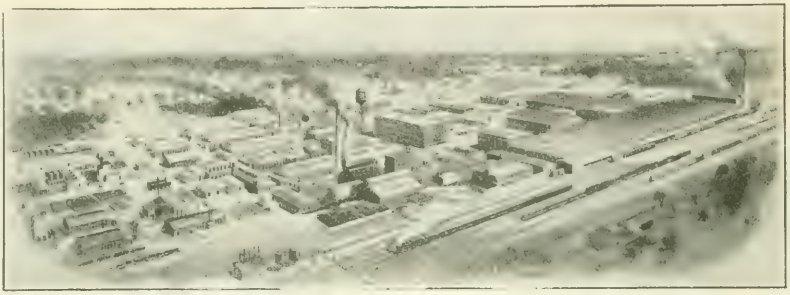
Extensive Literature on Request.

CAVENDISH CHEMICAL CORPORATION

Sole Agents

220 West 43rd Street *Established 1905* **New York**

Medicinal Chemicals



Works at RAHWAY, New Jersey, U. S. A.

MERCK & CO.

NEW YORK MONTREAL ST. LOUIS

For the Average Case of INSOMNIA

ADALIN

Bromdiethylacetylcarbamide

Accepted by Council on Pharmacy, A.M.A.

ADVANTAGES:

1. Occupies a place midway between the powerful hypnotics and the mild and unreliable sedatives.
2. Tasteless and well tolerated by the stomach.
3. Free from any depressing influence upon the the respiratory and circulatory organs.
4. Can be utilized either as a sedative or hypnotic, according to the dose.

HOW SUPPLIED

In 5 grain tablets, tubes of 10 and bottles of 25 tablets; Powder in ounces.

Literature on Request

WINTHROP CHEMICAL COMPANY, Inc.

P. O. Box 192, Windsor, Ont, Canada

The Canadian Medical Monthly

VOL. V., NO. 12 TORONTO, CANADA NOVEMBER, 1920

EDITORIAL

VALE!

With this issue of December, 1920, "The Canadian Medical Monthly," as such, ceases publication.

For its success in achieving what it set out to do it wishes to extend its thanks to those who have been responsible for that success—its contributors, its subscribers and, last but not least, its advertisers.

Three years ago this Journal started as a Quarterly designedly as an independent periodical to show that all groups, schools and, shall we say, cliques of practitioners could be gathered together in Canada into one homogeneous body to their great advantage.

It was soon manifest that we could not properly produce all the exceedingly interesting and meritorious papers offered unless we published more frequently.

It was then decided to publish monthly, and during the year just closing, our twelve numbers have justified our ideal and ambition. We see the realization of our vision, namely, the re-organization and rejuvenation of the Journal of the Canadian Medical Association which now we have reason to believe is assured the whole-hearted support of all doctors from Dartmouth Harbour on the east to the Sleeping Beauties on the west.

To the rejuvenated Journal and to its old and new adherents we give our heartiest felicitations and here express the hope that our old contributors, subscribers and advertisers will continue their cordial support.

Six months ago the Ontario Medical Association wished to adopt us as their organ of expression, and at the time we thought it would be in the interests of the profession that such we become. Gradually, however, it was borne in upon us that it would be much more to the interests of the profession at large if

the practitioners of the Dominion could all be brought together into one main association with its own Journal. The movement, inaugurated at the Conference in Vancouver last summer to amalgamate the two Journals, though not at first appreciated or understood by all factions, gradually spread until now, as we have indicated above, seemingly the idea has become nationally popular and we retire, leaving the complete field to the rejuvenated Journal, which we feel should be in the keeping of a re-aligned National Association.

The publishing of periodicals, medical or otherwise, is not really the province of a book publisher, and we could not continue our efforts indefinitely, yet we should be less than human if we failed to appreciate the many kind and encouraging messages we received from time to time from all our three classes of supporters. We therefore acknowledge them now and feel justified in believing that our expenditure of time, labour, and money has not been made in vain.

TO OUR EDITORS.

We wish to take this last official opportunity of publicly thanking you, our Board of Editors and our many contributors, for the generous services you have rendered in making the Journal the valuable and interesting medium it has proven to our many subscribers.

To each member we are deeply indebted for the co-operation which has been so cheerfully and gratuitously extended to us.

May we hope that the Canadian Medical Association Journal shall be enhanced in merit and value by your help, which, if withheld, would be a loss to timely medical literature in the Dominion.

TO OUR SUBSCRIBERS.

Your appreciation of the Journal, as manifested by your support, has been a source of gratification to us. Those among you who are not subscribers to the Canadian Medical Association Journal will receive the National Journal in lieu of the Monthly, during the unexpired term of your subscription. Should you not be at present a subscriber to the Journal of the Association, may we appeal on their behalf for a continuance of your support.

TO OUR ADVERTISERS.

For your valued encouragement and support we thank you. For the continuation of such in the National Journal, we earnestly solicit you, sincerely believing that the services rendered by us will become of even greater value in the hands of our successor. We know that the pleasant relationships which have existed between us will wish to be continued by those who will henceforth claim your allegiance, and we take our leave of you with best wishes for your continued success.

THE PUBLISHERS.

THE USE OF "BIPP" IN WOUNDS AND OSTEOMYELITIS*.

W. A. Gardiner, M.D.,

Assistant Orthopedic Surgeon, Winnipeg General Hospital.

I am introducing this subject of BIPP—Bismuth-Iodiform and Paraffin—in osteomyelitis, but shall not limit the discussion to its use in these cases only, as my experience has been too limited with them to warrant my writing a paper on that alone. If you will allow me I shall endeavour to trace my experience in treating War Wounds, and their progress, before the introduction of BIPP and after.

At first we were content to enlarge the track of a missile, remove the foreign body and lump of clothing, mop out with gauze soaked in some antiseptic, put in a large drainage tube and dress with a moist dressing. Our results were bad, many of these cases with wounds deep in muscle, developed gas infection, and in limbs, specially the lower, a hurried amputation had to be done to save the patient's life, and even then, the amputation done at a distance, for the wound was left widely open for fear of gas infection re-developing. This was the too frequent history of deep muscle wounds, and often too in superficial muscle wounds.

We now began to hear accounts of the wonderful results of treatment with Carrel Dakins, with numerous tubes and hourly irrigations, and in an endeavour to improve our results adopted that method. It was possible to carry it out fully and well, when only a small number of wounded were coming in daily and could be kept at the clearing station for prolonged periods; but such elaborate treatments were an impossibility when cases in large numbers were operated on and only the chests, abdomens, heads, some amputations and the desperate cases could be retained, the remainder as soon as out of their anesthetics, with numerous tubes sticking through their dressings, were shipped away to the base on hospital trains where some feeble attempt to continue the irrigation was made. The patients' later, were sent from the hospital train to the base hospital, usually in the middle of the night, and many next day re-transferred to hospital ships and gradually distributed over Great Britain. One cannot imagine, thorough Carrel Dakin's treatment carried out under such conditions, and so it happened that in England these cases, so called Carrel Dakin's Treated, came into their care no better or little better, than the others; and the system fell into disrepute.

We did not have very good results with saturated salt solution as advocated by Sir Almroth-Wright.

---

*Presented before the Winnipeg Medical Society, March 17th, 1920.

After this came Flavine and Brilliant Green. The open wounds were lightly packed with gauze soaked in one of these solutions, which did not require changing oftener than once in two days. Flavine, from the laboratory experiments, was reported to act as effectively in a serous medium, as in an aqueous. And while each of these treatments was an advance, there was still an eager search for something better, and all were ready to try the use of BIPP, a paste that might be rubbed into a wound after operation and excision and the wound immediately sutured with the expectation of healing by first intention. It was a very dangerous procedure to put into general use, and those of us who had followed the progress of treatments and their results, were very careful about adopting it in its entirety; but many wounds only partially opened up and excised after removing the missile and some of the clothing, were freely rubbed with BIPP and sutured. There were now two dangers, too much of the mixture might have been closed up in the wound or wounds, exposing the patient to BIPP poisoning or an insufficiently excised closed wound exposed him to virulent infection and gas poisoning. A missile especially a ragged piece of shell passing through clothing invariably carried a piece of the cloth in front of it, with the result that even when the shell went through a limb it left a track lined with threads and fragments of the cloth and bits of soil. Anyone who has laid such a track open and seen the futility of trying to clean it by any other method than its complete excision, knows the danger of slitting it open, moping out with gauze soaked in any antiseptic, expecting to remove the mud, innumerable adherent shreds of clothing and macerated muscle then BIPP and suture, it was only inviting disaster. Too much BIPP was used very frequently and rumors reached our ears that the men in England spent half their time scraping BIPP out of wounds to get them to heal, and some of this was true. It soon became apparent to all, that the only way to clean a wound caused by shell, of cloth and mud and devitalised muscle, was to excise the whole track completely and then to keep it clean use BIPP, Flavine, Salt Solution, etc., and now instead of closing the wound at once, wait two or three days, and if the wound looked clean and the clinical condition of the patient warranted it, close by delayed primary suture. If profuse suppuration were established and the patient ill, or the wound had the odor of gas infection, I for one was never brave enough to BIPP and close, but I have had many patients, especially compound femurs, that I have closed, later develop high temperature, rapid pulse and profuse discharge of brown stained BIPP smelling pus escaping between the sutures, gradually improve without removing the stitches and the wound heal in three to four weeks, the case going on from then as a simple fracture. That has not been my experience in cases going septic after suture without BIPP. The sutures have always had to be removed and suppuration has then followed the usual long period of an open wound and osteomyelitis.

When surgeons think they are getting improved results with one method they hesitate to change to another, and while many claimed they had just as good results in delayed primary suture, without BIPP as with, personally I had not and felt much safer after suturing a BIPP wound, than one without it.

Certainly by sterilizing an open wound with BIPP or Carrel Dakin or saturated salt solution after weeks of treatment and getting several sterile cultures, it would be unnecessary to use anything any more than it is necessary to use anything in a clean case here, but these are all infected wounds I am speaking of. The big advance in the treatment was the thorough free excision of the track and damaged tissue and the removal of all gas infected muscle, and following that, the early closure, leaving to the living tissue the task of destroying the comparatively small amount of infection still in the wound. In using any antiseptic and getting results, one is apt to attribute all to the antiseptic and forget the antiseptic power of the living tissue.

The splendid results in penetrating wounds of the knee joint with immediate closure of the capsule after excision of all soiled tissue and flushing out with saline only, and the disastrous results of leaving the joint open with a drainage tube in it, could not help but impress one with the antiseptic property of the synovial membrane, and suggest the possibility of closing the muscle wounds if not at once, at any rate as soon as safe to do so. The first essential was, of course, the complete excision of soiled tissue and the wound then had a chance, and of course if one could do that completely, without soiling the wound in the operation you would have a sterile wound, but that is not possible when cutting deeply into the thigh to a fractured splintered femur, with bleeding and oozing going on to a greater or less extent important vessels and nerves to be avoided, and so to give some assistance to the tissues, BIPP and other materials were used. Delayed suture was better than immediate, for the reason that you had a second opportunity of seeing the wound, examining the thoroughness of the excision, that there was no gas gangrene infection and oozing having stopped, enabled you to close a comparatively dry wound. In immediate closure of muscle wounds, oozing of blood from the tissues is unavoidable if the wound is large and deep. I have closed immediately, excised BIPPED wounds that in a few days were tense, swollen, red and painful with spreading infection, high temperature and rapid pulse. The removal of a suture or two has allowed the accumulated blood to escape, condition has subsided at once and healing gone on by first intention. I have never had that experience without BIPP, and think the assisting action of this mixture better than any other in infected wounds. It remains in the wound, thereby being able to exert some destroying power on infection, unlike soluble absorbabel materials that are soon carried away, leaving the tissue to fight the battle alone. Certainly I don't wish to give the impression that all cases treated as described, did well; on the contrary there were many failures, and the man having one hundred per cent. success was not doing surgery in this War. The cases so treated, were men in whom profuse suppuration was not established, but all were dirty wounds, many one to two days old when operated on.

Rutherford Morrison cites many cases where suppuration was profuse and the patient running a high temperature, that he operated on in England, BIPPED and closed with astonishingly good results. There may be profuse discharge

for weeks, but if in bad compound femurs he got good permanent closure in six weeks with dressings once every ten days, anyone who has seen the sinuses to old fractures lasting months and dressed every day, then closing and breaking down periodically for years must admit improvement somewhere. To get a compound fracture to approach in its action to the simple fracture type, is a tremendous advance, only those working with large numbers of this class of case can appreciate, and compare those femurs with closed healing wounds to the failures, and those on whom no attempt at closure was made, with their profuse suppuration and frequent dressing, stimulated all in the endeavour to close early and get a percentage of success.

A great advantage with BIPP was, in discharging cases, there was no necessity for frequent dressing. Rutherford Morrison dressed his cases only once a week or ten days, reinforcing the dressing when saturated; but he did the dressing with the same scrupulous care he did the operation. I don't think there is much doubt that if you have thirty open wounds in a ward, all clean but one, that without scrupulous care when dressing each case daily, all your wounds will soon be septic. The dressing is surely as important as the operation, and with infrequent dressings the danger is minimized.

BIPP seemed to me to do two things, mixed with the discharge it formed a poor medium for germ growth, and by preventing rapid union allowed some drainage, thereby avoiding retention of septic matter under pressure. Pus, not under pressure, or where there is free drainage, as in a through and through wound of the thigh from front to back, with a large posterior opening, does not require daily changing of dressing. And one often had cases that seemed to be doing quite well, dressed daily, suddenly flare up and become again acute conditions, some of which at any rate, may have been due to a mixed infection, due to careless dressing of many septic cases the same morning. One would not think of dressing several pus cases and then going to a clean one without taking every precaution, and it seems sensible that the same care should be taken when dressing one pus case after another. When a patient with a discharging wound is comfortable, temperature coming down and making good progress, I don't think there is any need to change dressings daily, attempt to clean the skin around the wound to make it look nice, cause the patient a lot of pain and disturbance, especially when one has had these cases go on much better dressed every fifth day and then simply by changing the gauze, without cleaning the skin or mopping out the wound.

Let me illustrate with a few short case reports:—

H. S. Gibson, R.C.R. Wounded the 15th of August, through and through shell wound from side to side three inches above the left knee. Wounds freely excised and packed with Flavine gauze at C.C.S. On the 17th, admitted to Base Hospital, examination reveals two large wounds that looked very clean. Patient's temperature 99.2, pulse 90. Fracture femur junction middle and lower thirds considerable comminution. Wounds BIPPED and closed with BIPP silk sutures. Bent-Thomas Splint. This patient did perfectly and was completely healed by first intention eleven days later.

H. A. Starr, A.I.F. Wounded by bomb, 17-8-18. Large wound right buddock. Excised and packed with Flavine gauze. Fracture upper third femur just below great trochanter. Admitted to Base 19th, and wound BIPPED, skin satured over large wound right across buddock, Hodgins Splint. Seven days later dressed, doing splendidly but discharging some pus through sutures. Re-dressed ten days later, discharging now only at one spot where skin has pulled apart, no temperature. Twenty-five days later, bone united, wound completely healed.

Pte. R. Killiby. Wounded the 24th. Fracture femur middle third, bullet, entry in front, explosive exit behind and gas gangrene of one of the ham strings. Exit excised and the ham string muscle completely removed. Flavine packed. Admitted to Base on third day, little pus at upper angle of wound, posterior splint. Wound completely healed in thirteen days, after BIPP and suture.

C. Mahoney. Bullet entered back of right thigh to outer side, exit in front explosive fracturing femur, large amount muscle been excised. Flavine Para. gauze. Cleaned out some sloughy muscle BIPPED complete suture BIPP silk. Fracture middle third, twenty-six days later complete union, though there has been some bloody discharge for first fifteen days.

Pte. Care. Wounded the 24th 8-18. Huge shell wound inner side right thigh. Has been extensively excised and packed with Flavine gauze, sutured two days later after rubbing in BIPP. Ten days later while being dressed had profuse hemorrhage from femoral artery, transfused thousand C.C. blood, wound opened up and found covered with sloughing tissue, femoral tied, wound cleaned, re-BIPPED and completely closed. Twenty-one days later wound is completely healed with good circulation in the foot.

Pte. Durand, 47th Canadians. Shell wound 10th August. Large wound outer side right thigh above knee, excised at C.C.S. Lot of comminution femur considerable bone shot away, BIPPED and Flavine packed. Wound sutured five days later, temperature and pulse normal, no discharge. Eight days later wound has healed by first intention.

Pte. R. J. Sainsbury. Wounded August 17th. Shell. Entry outer side right thigh, comminution fracture lower third right femur. Extensive excision of the wound, bone closed off, temperature 99, pulse 88, feeling well. Ten days at C.C.S. BIPPED and sutured at Base on the 20th. Bent-Thomas Splint. Twenty-third a lot of swelling, temperature 102, pulse 110, some pain not excessive. Fifteen days later draining a good deal sero pus, sloughing at edges later wound dry and completely healed.

Like the majority of papers the cases reported have been successful, but I assure you I had many that were disappointing and failed, and in doing War Surgery one had to become accustomed to failures such as a mortality of fifty per cent. in abdominal cases operated on at a C.C.S. and by abdominal cases I mean penetrating wounds of the abdomen with perforation of the gut. How may the use of BIPP be extended to cases in civil surgery? So far I have only used it in osteomyelitis, both in the chronic sinuses leading down to sequestra

and more extensive bone infections following compound war fractures and a few cases of chronic osteomyelitis following an acute infection of the bone.

Everyone knows how difficult it has been to get a sinus leading to dead bone to close, and once closed keep it so. It has been advocated that where the sinus leads into the medulla the bone should be chiselled down flat, allowing the soft tissues to fall in and come in contact with the fresh healthy bone, or if they do not do this, free a flap of muscle at one end to close the cavity and excise as much as possible all masses of scar tissue. Some of these so treated do very well, but many periodically break down, while others flare up acutely. In some situations, such as the lower end of the tibia, one cannot get a flap of muscle and following the example of Rutherford Morrison, I have taken fat from the thigh to fill the cavity, after clearing away the infected bone, rubbed in some BIPP, and closed without drainage. One of these cases was a boy who had an acute osteomyelitis of the lower fourth of the tibia, involving a considerable portion of the width of the shaft, from the epiphyseal line upwards for three inches. There were two large sinuses leading into the medulla, discharging freely. The scar tissue and sinuses in the soft parts were excised and the bone exposed by a five inch incision, a wedge of bone chiselled away to the epiphysis, the cavity dried out with methylated, half dram of BIPP rubbed on bone and soft parts and the skin closed over the roll of fat taken from thigh, leaving thereby no cavity. This wound was quite soundly healed in twelve days and has remained so for a month.

Another case had an ulcer on under surface of his heel, caused by a nail, ulcer somewhat larger than a ten cent piece, and surrounded by scar tissue. The probe passes into the oscalcis three-quarters of an inch and patient has had this condition for a year. X-Ray shows cavity in bone and irregular formation of new bone on under surface. The ulcer was excised, soft tissue of heel raised in a flap, new bone and cavity chiselled partly away, dried with methylated, BIPP rubbed in, roll of fat from thigh put in bone cavity and ulcer and incision sutured. This was nine days ago and so far there has been no pus, and the wound promises to heal. Where one is cutting through infected tissue, into uninfected muscle in doing an extensive operation as in the femur, it frequently happens that acute inflammation lights up in this uninfected muscle and subcutaneous tissue, which I feel sure is largely avoided by the rubbing of the whole new wound and incision with BIPP.

I assure you there are many men who could illustrate their work with as many successes without the use of BIPP, but I have tried to confine these remarks and observations to my own cases and my own experiences, and as far as my judgment goes, I do not think there is virtue in the use of BIPP in some cases.

One grew accustomed to seeing equally good results got by different methods, especially was this impressed on me in seeing various femur hospitals using such a variety of splints or the same splint in different ways, and in each femur hospital their results were very similar, so that after all, whatever the method adopted, what counts is the care and manner in which it is carried out.

OBSTRUCTION OF THE LACRYMAL PASSAGES AND ITS TREATMENT*

F. J. R. Forster, M.B.
Stratford.

This subject is rather an extensive one to undertake under the present circumstances, but it is not my intention to deal exhaustively with it, but rather to review briefly some of the accepted lines of treatment for this condition and direct your attention to some of the more recent surgical measures devised and practised by some men of the present day for its relief.

I have found this condition one of the most difficult and more or less unsatisfactory to treat in all the surgical conditions of the eye and I trust that the discussion that follows my paper will enable me to treat my cases with greater success and satisfaction to my patients and to myself.

Obstruction of the Lacrymal passages may be due to a condition of either end of the canal. It may be due to invasion of the sac by such constitutional conditions as Syphilis or Tuberculosis or to disease of the surrounding structures as the Ethmoid cells. It may be due to chronic Conjunctivitis obstructing the lumen of the canaliculi, an eversion of the lids, interference with the suction apparatus, or obstruction of the canaliculi by foreign bodies, for example hairs, cilia or fungi. Or it may be due to invasion of the passages from the nasal end, Chronic Rhinitis, hypertrophic or atrophic, or sinus infection. One writer has stated that he found definite sinus disease in over 60% of all cases of obstruction of the Lacrymal passages examined by him. I cannot personally make any statement in this regard, but at any rate it is easy to understand how a hypertrophied or chronically congested condition of the nasal mucous membrane combined with the presence of pus in the nose could easily produce infection of the sac. And of course direct involvement of the sac may take place through necrosis of the underlying bone from Ethmoid disease.

One need not spend any time over the symptoms of obstruction of the lacrymal passages, especially in chronic condition, as they are familiar to you all. In regard to the diagnosis, we usually regard that as easy too until we have removed a few sacs, expecting primary union; only to find the condition complicated by an ethmoid fistula which refused to heal till proper nasal treatment was applied. People frequently come complaining that the tear passage is blocked because tears run down the cheeks; this may be due to excessive secretion rather than obstruction. In such cases the refraction and other sources of irritation should be investigated and the diagnosis settled by the instilling of say Argyrol and blowing the nose or the use of the lacrymal syringe. Many cases of acute Dacryocystitis are confused with Erysipelas and probably most of you have had cases of obstruction following an attack of what has been

Presented before the Ontario Medical Association, Toronto, May, 1920.

called Erysipelas. Acute Dacryocystitis may be confused with Ethmoidal abcess but the latter usually points above the tarsal ligament whereas the former is below it.

In speaking of the treatment of this condition I realize that I have come to the most difficult part of my subject, one requiring the greatest skill and judgment. In many cases there is not much doubt as to the proper procedure to be followed, but others require considerable judgment to decide what is the best treatment to be undertaken as well as skill in carrying it out.

One would naturally suppose and from my own observation I believe it to be the case, that obstruction from the conjunctival end of the passage is less serious and more easily treated than that caused from the nasal end. We have all seen cases in chronic conjunctivitis where the puncta were practically obliterated, but as a rule one or the other can be found, the conical dilator used and the punctum enlarged with a knife. Other cases of temporary or occasional epiphora occur, due probably to blocking of the canal with mucus, and in these an occasional use of the syringe will give relief. Of course it is not necessary to state that the conjunctival condition and its underlying cause should be treated. Still further cases are due to stricture of the canal where it joins the sac. These cases require free opening and the use of the probe or style. I am not sure what the cause of the condition may be, whether a previous acute dacryocystitis or the use of too large probes causing abrasions of the mucous membrane and consequent stricture.

Coming to obstruction caused by nasal conditions it goes without saying that the nasal condition should be treated to begin with and concurrent with this, treatment of the tear passages.

Kuhnt believes that the reason why treatment of lacrymal disease is so unsatisfactory is because we have considered it a primary affection whereas it is a secondary condition. He says that simple probing is useless, in fact generally harmful. If this statement is true and also that 60% of cases of lacrymal obstruction are due to sinus disease and a large percentage of the balance due to other nasal conditions, it is of the greatest importance to treat the nasal condition primarily. In dealing with the obstruction itself, each case of course must be treated according to the condition and degree present. In some cases dilatation of the punctum and syringing are sufficient to effect a cure. In others the use of probes with or without slitting the canaliculus or various other surgical procedures are necessary. Personally I am loth to commence the use of probes in mild cases till other means have been tried and then endeavor to use them with the greatest of gentleness and care. Infants often clear up with one treatment of the syringe and probe. I also delay slitting the canal as long as possible and usually use the smaller probes without slitting the canaliculus. I seldom use a larger probe than No. 7 Theobald. Treatment by styles may not be looked on favorably yet it seems to me to be as rational as probing. In patients especially who cannot come often for treatment either because of living

at a distance or for some other reason, I frequently use styles. Of course the canal must be slit and the style watched carefully for a few days and perhaps removed daily and the sac syringed, but in a short time it is usually well tolerated and can be worn for weeks and months with occasional removal for cleaning. The style must fit properly and be so arranged that its end does not touch the cornea when the eye is turned in. Particularly must it be watched in cases where there has been pus in the sac. I have never had any corneal trouble and only one or two cases where there was any reaction.

Syringing cures only a small percentage of Dacryocystitis, probes and styles about five to ten per cent. so that there is still a large per cent. requiring further surgical treatment. Still every means should be taken to preserve the sac and restore its function unless it is evidently useless to leave it. When the sac is much dilated and full of pus, its tone lost, its wall greatly thickened or fistula present, it seems to me that extirpation is the most rational and promising treatment. I might mention here that after removel of the sac it is well to inspect the fossa and to search with a probe for an Ethmoid fistula. In cases not so extreme as these with perhaps one or two previous attacks of acute Dacryocystitis and where the patient objects to losing the sac other surgical measures hold out good prospects of success. People often object to having the sac removed, they naturally ask where the tears will go, and if tearing is their principal trouble with occasional presence of pus, they prefer to let things go as they are rather than submit to an operation for removal of the sac. In fact they will much more readily submit to one which promises restoration of function than one which totally removes that organ.

I will mention only two operations of this character which appeal to me as holding out the best prospect of success. One is a modification of Toti's devised by Drs. Benedict and Barlow of the Mayo clinic. While Toti's is an open wound operation this is an intranasal one done under local anæsthesia by a nasal surgeon. It is described in the December number of the American Journal of Ophthalmology, and is done briefly as follows:

Conjunctival and nasal anæsthesia are produced, a probe is inserted through the punctum into the sac. The mucous membrane is elevated and a flap one c.m. in diameter removed just in front of the attachment of the middle turbinate. The bone is removed by a small chisel exposing the inner wall of the sac. Any diseased Ethmoid cells can easily be broken down at this time. The probe is now manipulated to cause tenting of the sac wall through the opening, a circular piece of it is removed and the sac irrigated through the punctum. This completes the operation. A simple lotion is used for a short time and no other after treatment is necessary. I have had no experience with this operation and don't know whether the opening remains permanently or not, but it is certainly a procedure well worth trying.

Another method which I have tried a few times with fair satisfaction, and which is not difficult, is the operation of W. R. Thompson described by John

Green, Jr., of St. Louis. It can be done quickly and with very little pain, and if the case is watched for a few weeks afterwards often gives good results. Some may do well even if not seen again, but I believe it better to see these patients say every two weeks for a couple of months and pass a fairly large probe. I have found a Theobald number seven pass very easily some months after in a case that had had an abscess on both sides and had resisted treatment over a long period with probing and styles.

The conjunctiva is anæsthetized, the sac washed out and a fine probe passed through the duct into the nose. A small quantity 10% cocain with a few drops of adrenalin injected into the sac and repeated once or twice, bending the head well forward to allow the solution to come out of the nose. After ten or fifteen minutes the canaliculus is well slit. I use a Beer's knife and slit the canal the whole length. I believe it important to go well into the sac to prevent stenosis later. This allows the introduction of the instrument directly into the sac. Green's burrs are then passed and if the sac is diseased its walls are gently curetted. If there is no disease in the sac the burr is passed directly into the duct, or the small reamer is used and the duct well cleared into the nose. The large reamer is then used, followed by Theobald's probes, large size from ten even up to sixteen in rapid succession. The silver burr is then covered with cotton and Tr. Iodine swabbed lightly through the passage. The patient is then sent home and cold compresses applied to relieve soreness and swelling.

Dr. Green reports sixteen cases treated by this method with ten first-class results, three improved and three failures. He states the only drawback to be, first tendency of the canal to become narrow at its junction with the sac. I referred to this condition earlier, having had the same experience in one of my cases. Second, a moderate stillicidium in the cold and wind which he blames on the slit canal. The advantages he claims are, 1. Removal of foreign bodies from passages, also polypi and granulations from the sac. 2. Providing adequate drainage by admitting large probes. 3. The operation is not serious and can be repeated. 4. It is an office treatment and may be successful from the first, not requiring much subsequent treatment. 5. If it fails other treatment can be carried on, such as removal of sac. 6. Preservation of sac and restoration of function.

MODERN METHODS AT MILLBANK.

The Royal Army Medical College.

How It Helped to Win the War.

It was the loneliness of the little chap that drew me to him writes a Morning Post representative. He was wandering disconsolately along Grosvenor Road and looking every now and again across at the Embankment with that shall-I-end-it-once-and-for-all look in his off eye that translates itself into so many Thames tragedies. Streptococcus Pyogenes was his name, he told me, and he had wandered away, without meaning to do so, from his 30,000,000 little playmates; and for the life of him couldn't find his way home again. Alone in London and yet possessing all those relations. Luckily the name gave me the necessary clue to his identity, and when he put his trustful little hand in mine, I was able to lead him back to the family fold. And that is how I found myself in that wonderland of medicine, surgery, and research known as the Royal Army Medical College, Millbank.

£2,000,000 *Worth of Vaccine.*

What the British Army, what the British Nation in fact, owes to the Royal Army Medical College will never be fully known. Hundreds of thousands of lives have been saved by its activities. Much nonsense is written and spoken concerning vaccination, but the war statistics to be seen at Millbank are of the most complete and convincing character. There in the Department of Pathology the greater part of the vaccine for the Army during the war was made—vaccine for typhoid, dysentery, cholera, influenza, and many other diseases. It is a relatively small staff which is engaged in the manufacture of vaccines, but the volume of work produced during the war was simply amazing. The following figures show the number of cubic centimetres of vaccine manufactured at Millbank between August 4, 1914, and July 31, 1919: Typhoid (Para. A and B), 18,665,961; Typhoid, 1,865,482; T. A. B. (for Indians), 69,320; Staphylococcus Aureus, 107,652; Staphylococcus Albus, 33,881; Staphylococcus Mixed, 130,264; Acne and Staphylococcus, 47,276; Streptococcus Sensitised, 2,509; Dysentery Sero Vaccine, 99,205; Influenza, 1,806,325; Acne, 754; Cholera, 8,052,424; Streptococcus Pyogenes, 92,978; Pneumococcus, 6,025. Of agglutinating Sera the quantities made in the same period were: B. Typhosus, 4,190; B. Para. "A," 3,936; B. Para. "B," 4,208; B. Gaertner, 993; B. Shiga, 1,998; B. Dysentery (other than Shiga), 6,935. The total output of vaccines was 30,980,056 c.c. and of sera 22,260 c.c.

The quantity of vaccine made at Millbank during the war, if it had been purchased in the open market, would have cost the nation not less than £2,000,000.

War Statistics.

In the South African War, which lasted for two and a half years, with a field force which attained a maximum strength of about 200,000 men, there were 57,000 cases of typhoid fever, with over 8,000 deaths. Anti-typhoid vaccine was then in its infancy, and hardly any of the men had been inoculated. Indian and Egyptian campaigns tell the same story. Typhoid fever has in past wars always been much more dangerous to the soldier than the weapons of the enemy.

In the present war a new experiment was made. As has been shown, typhoid vaccine was made in enormous quantities in London, and everyone in the British Expeditionary Force was encouraged to be inoculated. About 96 per cent. of the whole British Expeditionary Force was given typhoid vaccine (T. V. or T. A. B.), and this was strictly kept up by re-inoculation every year. What was the result? In the European War, which lasted for four and a half years, with a force of over two million men in the field, there were only 2,143 cases of typhoid fever, with 204 deaths. Out of the small minority of non-inoculated persons there were 128 deaths from typhoid fever. Thus it is that the pioneer work of Sir Elmroth Wright and of Sir William Leishman, both past professors of Pathology in the Army Medical School, has at last come to fruition.

Comparisons.

It may be said that some of the cases called typhoid fever in South Africa were, in reality, paratyphoid fever. This may be true; though the large per centage of deaths in South Africa seems to suggest that real typhoid fever played the chief part. But perhaps it is fairer to add both typhoid and para-typhoid fever together when the South African and the European Wars are compared. This is done in the following table:

	Duration	Approximate Maximum Strength	Inoculation	Cases of Typhoid and Para-Typhoid	Deaths
South African.....	2½ Years	200,000	Uninoculated	57,000	Over 8,000
European	4½ Years	2,000,000	Nearly 96 p.c inoculated	7,352	260

It might be suggested that the larger number of cases in South Africa were due to the climate, and that there could never be such a severe outbreak in Europe. Typhoid fever can be just as bad in Europe as in South Africa. One of our Allies obliged to mobilise a very large army at a moment's notice, and therefore unable to get the men inoculated in time, had many thousands of cases and a very large number of deaths within the first few months of the war. As

soon as time permitted them to inoculate their troops, the typhoid fever practically stopped, and has never caused serious wastage or loss of life in their army since that time.

The Period of Protection.

In making vaccine for the Indian troops, religious susceptibilities have to be taken into consideration. It has to be made without the intervention of cattle. Ox hearts are discarded and a special brew of culture medium is made from sheep's hearts. The main purpose of vaccine is to make a patient more resistant than would otherwise be the case. Sometimes, of course he may get an overwhelming dose of the invading organism, and the disease asserts itself, but it is in a much modified form. For protection against smallpox, people should be revaccinated every few years. In the case of typhoid, the period of protection is shorter. As a matter of fact, the troops were given the opportunity of being revaccinated against enteric every year. That does not imply that people generally ought to be inoculated once a year against typhoid. It only means that if there should be an outbreak of typhoid in a particular area, the population of that district ought to be inoculated by way of precaution. But for the soldier subject to the conditions of foreign and active service typhoid fever is a constant danger; so inoculation and annual re-inoculation is imperative. I was shown a plate on which mucus from a nasal catarrh patient was being examined. The doctor by whom it had been sent was doubtful whether it contained meningococcus. The organism actually discovered was streptococcus, a blood relation of my forlorn friend of the Embankment.

'Ware Carriers.

And here let me sound a note of warning to anybody inclined to be as careless as myself in making chance acquaintances. Of every hundred people you pass in the street, two and sometimes five may belong to that pestilential section known in medical circles as "carriers." They may be propagators of disease. If there is anything to be caught they catch it, but do not necessarily suffer from it; they pass it on to the innocent and helpless public who do not belong to the transport department. To the man in the street, it may be news to know that there are vaccines for the prevention and cure of boils, nasal catarrh, influenza, and just ordinary, everyday colds. Doctors nowadays diagnose on bacteriological lines. If the clinician—that is, a physician—is in doubt as to the nature of a fever, he applies to the bacteriologist to cultivate, if possible the germ from the case. The germ is isolated, subjected to tests known as agglutination, tests by means of sera which have been prepared by inoculating animals with known typhoid or other bacilli, and to the pathologist it becomes a simple matter to determine whether the germ is dangerous or not.

Experimental Laboratory Work—Detection of Poisons.

The Hygiene Department of the College ought to be labelled the "Inquire within about Everything" Department. Anybody who wants to know anything, or borrow anything, goes there, and never comes away empty-headed or

empty-handed. But it was its war-work in which I was particularly interested. One of its first duties was to supply lemonade to the troops in the field. It was not called that, perhaps because it was not lemonade, but one could hardly expect to get that from a water-sterilising tablet. For troops in the mass there was the usual chlorination carts, but where small bodies of cavalry had to move forward with as little impedimenta as possible some means had to be devised for enabling them to carry in convenient compass a sterilizer. Tablets were accordingly made containing, among other ingredients, saccharin and oil of lemon. When a cavalryman found water clear but bacterially foul, all he had to do was to drop a tablet into it, and very soon it was fit to drink. The soldier's water-bottle at that time was made of enamelled iron. Suddenly the supply of this material ceased, and in its place it was proposed to substitute white metal. The subject was referred to the Hygiene Department of the College as a matter of pure chemistry. Experiments showed that this change involved a danger of poisoning. The metal was found to contain 60 per cent. of copper, which meant that every time a bottle was used copper sulphate was formed and danger of poisoning resulted. Bottles made of nickle coated with silver were tried, but the silver proved to be spongy or porous, and the acid still got at the white enamel beneath. That brought the Department up against a question of metallurgy. First chemistry and then metallurgy. It illustrates the ramifications of the work which came under the head of "Hygiene." Finally, the problem was solved by the use of aluminium, which arrived opportunely from America.

The Famous Laboratory.

Another highly important product of the department in connection with water supply was the evolution of a portable test-box for use in the field by even untrained men, which rendered certain the detection of a difference between one part of chlorine in a million parts of water and one part of chlorine in two million parts of water. One part of chlorine in a million is sufficient to sterilize foul water; killing all the infective organisms without imparting an objectionable taste. The hygiene section of the College possesses, as it deserves, one of the finest laboratories in the world. There is bench accommodation for 77 officers, each having his own bench, his own re-agents, and everything complete, so that all can work simultaneously. The College lacks little in the shape of apparatus. There is an ultra-violet ray sterilizer for obtaining water without the slightest suspicion of a stain on its character. Something like 267 billion rays a second pass through the water as it falls over a central weir. They are discharged by mercury vapour at incandescent heat owing to the passage of a very powerful electric current. By the bombardment of the rays all germs are killed, and the water is delivered at the bottom absolutely pure. In a locked room into which no one below the rank of a professor or a pressman is permitted to enter, there is a chemical balance so delicately adjusted that a breath will disturb its poise. When first installed it was found that the omnibuses passing outside set up vibration. Consequently it now rests on solid pillars sunk 27 ft. to the London

clay. By means of that balance the weight of the finest hair can be ascertained, and for chemical analysis it will weigh down to the tenth of a milligramme.

Choking Mosquitoes.

Still another chamber of absorbing interest is one in which every known variety of sanitary appliance used by ourselves and other nations, especially during the war, is shown. The Professor of Hygiene is justifiably proud of a toy camel he brought from Egypt, which carries on its back in miniature form sufficient sanitary equipment for a whole battalion. There are improvised shower baths constructed of kerosene tins, and a working model of a particularly ingenious method of oiling pools for the purpose of killing mosquitoes. Floating oil-cans are so adjusted as to keep the surface of a pool covered with a film of oil. The mosquito maggot lives in the water but must come to the surface to breathe, and the merest spot of oil drawn into its breathing tube puts an end to its activities for ever. In addition to inventing and perfecting methods of sanitation, the Department further studies the comfort and marching powers of the soldier by comparing the clothing and equipment of every Army in the world with that of the British Army. Tussauds would pay handsomely for some of the uniforms in the possession of the College. Experiments are made from time to time with the object of ensuring a perfect balance of the load of kit a man carries. Constricting bands are discarded, the chest is given more play, and various relief devices are adopted, all with a view to suiting the back to the burden and rendering a long march less exhausting. When a man stops to rest during a march he should lie down rather than sit down. Scientific practical tests have shown that by sitting he uses up some 7 per cent. more energy than by lying down. The strain of sitting causes the loss of nearly as much energy as if the man were standing at attention.

A Biscuit of Renown.

By precisely measuring a man's output of energy his food requirements are calculated. The rations—field service and reserve—undergo minute examinations in order that the largest amount of sustenance may be compressed into the smallest possible compass. It has taken a long time to produce the right kind of biscuit—one which is not too brittle and yet not hard enough to break the teeth. It has to be baked with the utmost care to prevent the birth in it of moth maggots. At the Siege of Acre the biscuits served out to the Army were so weevily that the troops could only eat them at night, when they were largely lost to sight. The biscuit supplied to-day is so rapidly dried that the moth has no chance to lay its eggs. There are biscuits of all ages on exhibition. I was shown one housed in a glass case of its own, covered and surrounded by biscuit beetles which have been the pets of the staff ever since the College was instituted. When the Balaclava and Mutiny veterans have their next reunion that biscuit and its bodyguard, having gone through both campaigns, ought in common fairness to be invited to meet the Comrades of those great wars.

During the Mesopotamia campaign there were complaints of the lime juice supplied to the troops. A condemned bottle was returned to the College, with the result that the Hygiene Department prepared from crude squashed limes a drink which retained its flavour and purity and power to prevent scurvy in all climates. Butter and margarine also came within its province. An instrument known as a refractometer determines the difference with unfailing accuracy, but a simple test for housewives when in doubt is to melt the mixture. Butter melts quite clear and bright, whereas margarine is turbid.

Deadly Poisons.

The detection of poisons is yet another branch of activity in which this wonder working Department distinguishes itself. I saw the deadliest of all poisons—oubain—which almost defies detection, so minute is the quantity needed to cause death. One hundredth part of a grain has killed a rabbit. It is used by the African natives on their arrows. There was a recent case of one of our soldiers shot by an arrow tipped with oubain and although a medical officer was standing by his side at the time the man was dead in ten minutes. Arsenic which used to be somewhat difficult to discover can now be found with ease and certainty at the College by means of the electrolytic Marsh-Berzelius apparatus, which will detect the tiniest trace—the one five-hundred-thousandth part of a gramme.

Many of the identity discs worn during the war became so badly defaced that extreme difficulty was experienced in deciphering them. Accordingly the Department is at present investigating numerous substances and carrying out experiments to obtain a material which will resist the hardships and ill-treatment of modern warfare.

The Lethal Chamber—Heroic Officers.

For nine months after the Germans launched their gas attack at Ypres a great deal of the defensive research work was done at Millbank. Urgent requests were sent home for protective masks for our troops. Without a moment's delay General Sir William Horrocks set the staff of the Hygiene Department to work and organized the manufacture of defensive appliances by selected trade firms. In sixty hours 98,000 masks were made and sent out. Within six days 300,000 had been despatched and by the end of a month no fewer than 2,000,000 had reached the troops. Helmets affording far better protection than the masks were turned out at the rate of 75,000 a day. On one memorable day there was a record output of 108,000. During the period of urgent need following the first German gas attack the staff worked without cessation every day until eleven p.m., and every alternate night, all night. While the men in the trenches were risking their lives the Professor of Hygiene and his helpers at the College were daily running equal risks in testing the efficacy of the protective masks. A room known as the lethal chamber would be filled with poison gas, and the chief or one of his assistants wearing a mask would spend a whole hour there.

Sticking It.

It was a perilous business, but these brilliant young chemists literally fought for their turns. Although the chamber had a glass panel the gas was sometimes so thick that the occupant could not be seen, and he had to make his existence known to those outside by tapping. At the end of half an hour he would be asked if he could go on. The reply would come, "I will try to stick it for another five minutes." The five minutes would drag along into fifteen, and then the victim would feel that he could not stand another second of the torture. But he would go on and on until the full hour had passed. Occasionally one suffered so severely as to be temporarily incapacitated, but no sooner had he recovered than he was at it again. This was the sort of thing going on under our very noses in London, and we knew nothing of it.

Library and Museum.

The Library forming part of the College is consulted by research students from all parts of the world. It contains eight to ten thousand volumes dealing mainly of course, with military medicine and surgery, but there are also Army Orders, histories of campaigns, and reports which can be found nowhere else. One of the curiosities is a cast of a medal struck in the reign of the Emperor Luicius Verus, A.D. 164, illustrating the earliest association of rats with plague. As a night resort the College Museum has much to recommend it, possessing as it does one of the finest collections of skulls and skeletons in the world. To the student the latter anatomical specimens showing the pulverising effect of modern bullets, are invaluable, as also are the cases of old and new surgical instruments.

Course of Studies.

The chief function of the College is the instruction of the officers who enter the Army. Having gone through the medical schools and qualified as doctors, they pass a competitive examination for admission to the Army and are sent to Millbank. There they do a three months' course before going to Aldershot for field training. At the college they do purely professional work to introduce them to the special problems of the Army Medical Services. They have to concentrate on pathology, hygiene, medicine, and surgery, the work differing in a certain degree from that which a medical man would do in general practice at home, officers having to occupy themselves chiefly with tropical diseases and the surgery and medicine of war throughout the empire. In addition to the entrance course that all officers have to go through, every Army Medical Officer has to come back to Millbank after he has put in anything from eight to ten years' service to do a refresher course before his promotion. That course lasts nine months, and includes walking the civil hospitals as well as doing special work in reference to the medical problems of war. It is during that period that the authorities select specialists. Every officer is invited to take up a particular subject during his promotion course, and if he succeeds in

distinguishing himself he is likely to be employed later in the particular field in which he has qualified—as a laboratory worker, sanitary officer, or a specialist surgeon for instance.

Medicine and Surgery.

In the medical section the officers specialise in tropical medicine. The Professor of Tropical Medicine has at his disposal a number of beds at the adjacent Alexandra Hospital to which patients suffering from tropical diseases are sent. If a cure is possible—and the cases in which it is not are so few as to be almost negligible—the patient is assured of it there. The medical department, naturally, works in the closest association with the surgical under the Professor of Military Surgery so that an officer on completing the College course is equal to tackling any and every sort of ailment, affection, or disease to which man is liable in any country in the world.

Entomology.

Affiliated with the Royal Army Medical College is the Entomological Laboratory at Sandwich, where insect carriers of disease are being studied and demonstrated in all states of their development under conditions reproducing those obtaining in their natural climates. A course of lectures by the officer in charge of this Laboratory is given at the College to officers under instruction. Already one new variety of English Mosquito has been identified in this Laboratory, situated as it is amid surroundings especially suitable for such research.

Syphilology.

A very important part of the instruction provided for officers passing through the Royal Army Medical College is given at the Military Hospital, Rochester-row. This hospital, under the able direction of Colonel L. W. Harrison, C.M.G., K.H.P., has for some time taken a leading position in the diagnosis and treatment of venereal diseases, and the results obtained have been of immense value, not only to the Army but to all students of a syphilology. One has only to remember how these diseases affect not only the patients but future generations as well, to realise what a debt the nation and the Empire owe to the Army medical officers who have carried out original research in venereal diseases at Rochester-row.

Among past members of the staff to whom the present teachers gladly acknowledge a deep debt of obligation are Sir Almroth Wright, Sir William Leishman, Sir William Horrocks, Sir David Bruce, Brigadier-General Beveridge and Colonel Melville.

Infantile Diarrhœa.

"All experience goes to show that Virol is a food of marked value in a great variety of conditions in which adequate nutrition by ordinary means is not easy to secure, including the general range of diseases accompanied by Wasting and Summer Diarrhœa."—*British Medical Journal.*

Virol is used in more than 2,000 Hospitals and Infant Clinics.

Age 14 months. Weight 10 lbs. Before Virol.

Age 24 months. Weight 30 lbs. After Virol.

H. J., a boy of twelve months, was brought to me suffering from Summer Diarrhœa. He had been fed nine months at the breast, and three months on some brand of Condensed Milk without checking the wasting. The usual remedies having failed, he was first put on a die of Virol and Barley Water, then Milk was added. His weight uniformly increased at the rate of six ounces a week. He is now a fine, bright healthy child in the pink of condition, and weighs 30 lbs.

Diet in Infantile Diarrhœa.

To each half-pint of Rice or Barley Water add one eggspoonful of Virol. Give one or two ounces of this mixture every two hours. In cases of great prostration add ten to fifteen minims of Brandy. When the evacuations indicate that the infection is at an end, sterilized milk can be cautiously added to the Virolized Rice or Barley Water, the milk being substituted for the Rice or Barley Water dram for dram, until Virolized Milk is the sole article of diet. As the child improves the Virol can be gradually increased.

VIROL

Sole Importers: Bovril Limited, 27, St. Peter St., Montreal.

PROGRESS REPORT OF THE COMMITTEE ON INTER-RELATIONS OF THE MEDICAL PROFESSION AND THE PUBLIC.

Made to the Committee on General Purposes of the Ontario Medical Association at the special meeting, Military Institute, Toronto, Dec. 7th, 1920, 2 p.m.

The Executive Committee of the Ontario Medical Association on Oct. 1st, 1920, appointed a Committee on social medicine designating as members Drs. J. G. Fitzgerald, Gordon Bates, W. J. Clarke, Chas. Hair, F. W. Marlow, John Morton, John Sheahan and J. E. Hett with Dr. J. H. Mullin and Dr. T. C. Routley, ex officio, and Dr. H. W. Hill of London, as Chairman.

The Committee met in Niagara Falls on Nov. 7th, 1920, for purposes of organization, all members of the Committee being present with the exception of Drs. Fitzgerald, Bates, Marlow and Hett. Dr. Hill was elected Chairman, Dr. Routley, Secretary.

The Committee adopted resolutions approving title, objects, scope and methods of procedure as follows:—

Title: "Committee on Inter-relations of the Medical Profession and the Public." After very careful consideration it was decided that the above title would be preferable to the one suggested in the appointment of the Committee. Your Committee respectfully requests that the adoption of this new title be confirmed.

Objects: The study of the sociological status of medicine in all its phases.

Scope: This Committee recognizes that great changes are taking place in the relations of the medical and allied professions (which include Medicine, Surgery, Dentistry, Nursing, Public Health and their various specialties) to the public; and of the public to these professions. Each understands the other better than in the past, and this mutual understanding is increasing with great benefit to both. It is, however, far from complete as yet.

Quotations from Doctors:

No. 7

"The majority of cases of pneumonia, in my experience of thirty years' medical practice, have had more or less pleuritic complications.

"I presume this is the experience of my colleagues.

"The most grateful application that can be made to a patient suffering with pneumonia is a warm

Antiphlogistine
TRADE MARK

poultice under a moderately firm binder or jacket. Its action is first through the superficial vessels, and then more slowly but just as efficiently on the deeper congested parts."

J. A. H., M.D.
NEW YORK CITY, N.Y

The Denver Chemical Mfg Co.
MONTREAL

LISTERINE

A Non-Poisonous, Unirritating Antiseptic Solution

Agreeable and satisfactory alike to the Physician, Surgeon, Nurse and Patient. Listerine has a wide field of usefulness, and its unvarying quality assures like results under like conditions.

As a wash and dressing for wounds

As a deodorizing, antiseptic lotion

As a gargle, spray or douche

As a mouth-wash-dentrifice

Operative or accidental wounds heal rapidly under a Listerine dressing, as its action does not interfere with the natural reparative processes.

The freedom of Listerine from possibility of poisonous effect is a distinct advantage, and especially so when the preparation is prescribed for employment in the home.

LAMBERT PHARMACAL COMPANY
St. Louis, Mo., U.S.A.
66 Gerrard Street East : Toronto, Ont.

Both the medical professions and the public recognize the enormous potential benefits to the human race involved in the great advances in the medical sciences, therapeutic and preventive, which have been achieved by these medical professions in the last few years. But neither the medical professions nor the public have as yet succeeded in so adjusting medical practice to the needs of humanity as to secure to the full for every citizen, that general physical welfare which may and therefore should be achieved.

The changes that are occurring and will occur in the future involve varied and hitherto little considered problems, vital to our national evolution; they concern on the one hand, the treatment of existing disease, the prevention of disease, the securing of physical health, physical efficiency and physical welfare for all; and on the other hand, the development of still further possibilities in the medical professions by the conservation and advance of their skill and powers; the expansion of medical knowledge and the application of this knowledge in new fields.

The adjustment of many economic questions are involved as a very essential feature. We therefore believe the scope and functions of this Committee include not only every effort to obtain from all ranks of society suggestions and expressions of opinion as well as records of actual experiences, leading to more complete application on the soundest economic principles, of the medical sciences, therapeutic and preventive, to every citizen whose physical condition may require the services they can render; but also the dissemination of this information in a manner which will enlighten the medical professions, the public and the legislators and so lead to the formulation of policies which will have for their end the application of the medical sciences to the actual realization of universal physical efficiency and physical welfare in our race.

Although this Committee was appointed by the Ontario Medical Association and recognizes that its work must chiefly concern the Province of Ontario yet the Committee also realizes that the problems in

volved in the changing relationships of the medical profession and the laity are coming to the fore in almost every country in the world; that the question "How can the medical profession best serve the public?" should not be answered without the collection of all possible information, from whatever country it comes, that may bear directly or indirectly upon medicine in its social and economic relationships to all classes of society and to every member of every class.

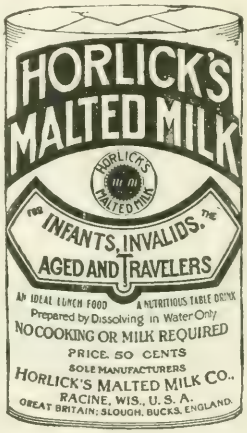
The unattended sick of every rank and class who require medical aid but for any reason do not receive it; the coming generation whose defects and disabilities go unrecognized both by themselves and by their natural guardians until too late for correction; those adults upon whom chronic disease creeps insidiously and who, although recognizing its onset, neglect it until it has produced irrevocable damage, and those whom the industrial world render prematurely inefficient from a physical standpoint must be reached through social machinery designed to bring together all those who suffer and those who can prevent or relieve their sufferings; and must do this with much greater perfection of detail, and on a far more comprehensive scale than at present.

The ultimate object to which it is the hope of this Committee to contribute is the formation on the broadest principles of sound economic policy, of such social mechanisms as will leave no physical or mental ill of any citizen unrelieved, so far as medical science can relieve it; and will prevent by early measures taken in good season, most of the ills now depreciating the physique and health of the race.

We regard the duties and responsibilities entrusted to us as duties and responsibilities to all humanity but in particular to the profession and to the public in Ontario.

We wish to record here our earnest desire that all interested in this great matter, whether they form part of the medical profession, or part of the public, whether they represent a special class or the private citizen, will contribute statistics, plans of operation, suggestions of any kind relating to

RECOGNITION of Horlick's Malted Milk has been *growing* for over a third of a century. It rests upon *quality* that combines *originality*, uniformity and dependability.



HOW *successfully* Horlick's has met the requirements of the physician and needs of the patient is shown by the universal accord with which it is prescribed.

Sample and Printed Matter prepaid to the Profession

Horlick's Malted Milk Co.

Racine, Wis. Slough, Bucks, Eng.
Montreal, Can.

The Ideal Tonic and Reconstructant

Waterbury's Cod Liver Oil Compound

Plain, or with
Creosote and Guaiacol

Tasteless **Odorless**

CONTAINS

The resultant product obtained by the action of the fresh digestive ferments—pancreas, ox gall, spleen, on

Cod Liver Oil—25%
Malt Extract
Hypophosphites Co.
(GLYCERINE BASE)
Ext. Cherry, Eucalyptus
Yerba Santa and Aromatics

NO SUGAR

Sig. *1 Tablespoonful 4 to 6 times a day*

The Waterbury Chemical Co. of Canada, Limited

Des Moines Toronto New York

Prescribed by Physicians in all parts of the World

any subdivision of the subject, in which they may have special knowledge; and specifically to organization of Medicine in all its branches, as Health Insurance, Workmen's Compensations, Compensation of Medical Men, Dispensaries, Clinics, Hospital Service, Licensing of Medical Men on Examination, Life Extension Examinations, Life Insurance Examinations, Reporting of Communicable Diseases, and kindred subjects with their ramifications and necessary corollaries.

This Committee requests that every local or district Society in Ontario, affiliated with the Ontario Medical Association, will appoint from its own local membership a similar committee, to pursue the same ends and to co-operate with this committee by counsel, advice, suggestions and by collecting and forwarding such information as may be available bearing on any of the above matters or cognate to them. Immediately on appointment of such a local committee, the names and addresses of the members should be notified to the Secretary of the Ontario Medical Association.

Operation: It was decided that publications bearing upon the subject should be acquired and distributed to the various members of the Committee, who in turn will assemble such information from these Journals as is deemed advisable to collect and disseminate all information available bearing on our subject.

Co-operation: It was moved by Dr. Mullin and seconded by Dr. Hair that each County Society be asked to appoint a subsidiary committee, and that the Executive Committee of the Ontario Medical Association be requested to make it possible for the Secretary of the Association to place in the hands of all local committees the necessary armamentatium to carry on, and that such local committees report through this central committee to the Association.

The CANADIAN MEDICAL MONTHLY

70 Bond Street — Toronto, Can.
Phone Main 4086. — Cable address Macmilco

Subscription price per annum in advance, including postage: Canada $3.00 (including Newfoundland); U. S. $3.50; foreign $3.50.

REMITTANCES should be made by cheque, draft, registered letter, money or express order. Currency should not be sent unless the letter is registered. Stamps in amounts under one dollar are acceptable. Make all cheques, etc., payable to "The Canadian Medical Monthly."

CHANGE OF ADDRESS notice should give both old and new address, and state whether change is permanent or temporary.

WHEN COMMUNICATIONS concern more than one subject—manuscript, news items, reprints, change of address, payment of subscription, membership, information wanted, etc.—correspondents will confer a favor and will secure prompt attention if they will write on a separate sheet for each subject.

ADVERTISEMENTS

First advertising forms go to press twenty days in advance of the date of issue. In sending in copy time must be allowed for setting up advertisements and for sending proofs. Advertising rates on request.

CONTRIBUTIONS

EXCLUSIVE PUBLICATION. Articles are accepted for publication on condition that they are contributed solely to this journal.

COPYRIGHT: Matter appearing in The Canadian Medical Monthly is covered by copyright, but as a general thing, no objection will be made to the reproduction in reputable medical journals of anything in the columns of The Monthly if proper credit be given.

MANUSCRIPTS. Manuscripts should be typewritten, double-spaced, and the original, not the carbon copy, submitted. Carbon copies of single-spaced manuscripts are not satisfactory. Used manuscript is not returned.

ILLUSTRATIONS: Half-tones and zinc etchings will be furnished by us when satisfactory photographs or drawings are supplied by the author. Negatives are not acceptable. Each illustration, table, etc., should bear the author's name on the back. Photographs should be clear and distinct; drawings should be made in black ink on white paper. Used photographs and drawings are returned after the article is published.

ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the waste-basket.

NEWS: Our readers are requested to send in items of news, also marked copies of newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

We are open to receive from any member of the medical profession signed articles which we shall be glad to publish purely from an unbiased standpoint. The Canadian Medical Monthly is published in the interests of the profession in Canada, but articles contributed by Physicians in the United States and Overseas are gladly accepted.

Any practitioner who is in possession of copy that would be of interest and benefit to the profession, will confer a favor by corresponding with the editor.

SPECIAL CLUB RATE. COMBINATION OFFERS — Effective only when paid in advance

Make any combination you wish of the list of journals below and deduct $1.00 from the regular subscription price on each one ordered. For example: When two magazines are ordered deduct $2.00, if three magazines deduct $3.00. To secure "Club rates" cheque must accompany order. CLUB RATES allowed only on orders received direct from physicians and not through the trade.

Canadian Medical Monthly (Monthly)	$3.00
Edinburgh Medical Journal (Monthly)..	6.50
British Journal of Surgery (Quarterly) .	8.50
Archives of Diagnosis (Quarterly).....	2.00
Archives of Radiography (Monthly).....	7.50

The Macmillan Co. of Canada, Limited
St. Martin's House 70 Bond St., Toronto.

Diseases of the Skin

By

G. GORDON CAMPBELL, M.D.

Assistant Professor of Skin Diseases, McGill University

Dermatology is such a large subject, and the time that can be devoted to its study in most of our colleges is so short, that no student can hope during his undergraduate years to learn to recognize more than a few of the more common diseases. When writing this book the author therefore bore this fact in mind in order to simplify as much as possible the problems which the novice has to deal with.

The volume is profusely illustrated and in several instances there are two pictures of the same subject: one giving the general appearance and distribution of the disease and the other the detail of the lesions.

As the diseases illustrated and described comprise from ninety to ninety-five per cent of the clinical material seen in the dermatological department of a large general hospital, the book should prove of great value to the student and general practitioner alike

The author is in charge of the second largest Skin Clinic in North America, and has for twenty-two years lectured to the students at McGill University, so that the deductions and conclusions contained in his text are unusually authoritative.

8 vo. with 174 halftone illustrations

$4.50 Carriage Paid

Macmillan Co. of Canada, Limited

Post Graduate Instruction

will be given to members of the Medical Profession. Radiographic Technique, including Radiotheraphy with the Coolidge tube.
Plate Reading and X-Ray Diagnosis.

Dr. G. R. REID
X-Ray Laboratory
56 College Street

$5500 MEDICAL PRACTICE AND residence in village east of Toronto on railway; fine beautiful location, doing over five thousand cash yearly; very handsome brick and barn including tooday garage; half-acre of some small fruits; beautiful lawn; no opposition; rare opportunity; good reason for selling. Pollard Co., 215 Avenue Road, Toronto.

CLASSIFIED ADVERTISEMENTS

Advertisements under the following headings cost **$2.00 for 40 words or less**, additional words 5c. each. This rate applies for each insertion.

WANTED	FOR SALE
Apparatus	Apparatus
Assistant	Practice
Books	Sanitaria
Intern	Drug Stores
Location	Locations for Sanit.
Locum Tenens	
Partner	FOR RENT
Partnership	EXCHANGE
Situation	MISCELLANEOUS

RESULTS vs. ECONOMY—DO NOT TRY TO economize at the expense of the effectiveness of your advertisement by omitting important and attractive features. **In selling a practice, value of which runs into hundreds of dollars, it is surely unwise to run the chance of losing a prospective purchaser by not including every important fact and favorable item pertaining to the location and practice.** Extra words over forty cost 5 cents each.

For the following classifications the **rate is $2.00 for 30 words or less**—additional words 10c. each. This rate applies for each insertion. No gratuitous insertions given under these headings.

Abstracting	Tr. Sch. for Nurses
Automobiles	Nurses Wanted
Auto Accessories	Med. Illustrators
Carriages	Vacation Trips
Collections	Typewriters
Medical Brokers	Printers
Educational	Salesmen
Publishers	

Miscellaneous Commercial Advts.

Classified Ads. are Payable in advance. To avoid delay in publishing, remit with order.

N.B.—We exclude from our columns all known questionable ads. and appreciate notification from our readers relative to any misrepresentation.

Physiological Principles in Treatment

By

W. LANGDON BROWN

M.A., M.D., Cantab., F.R.C.P.

Physician with charge of Out-patients, St. Bartholomew's Hospital;
Physician to the Metropolitan Hospital, etc.

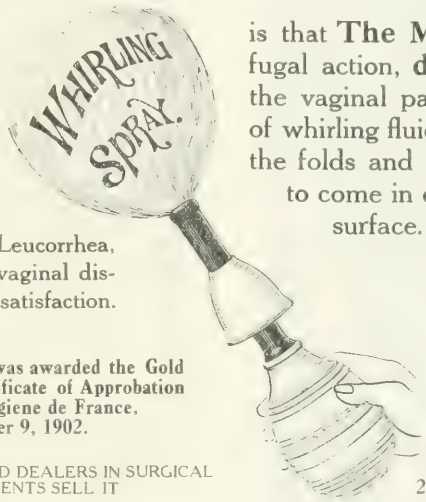
CONTENTS:

The Principles of Organo-Therapy.
The Rational Treatment of Gastric Disorders.
Mechanical Factors in Digestion and Indigestion.
The Work of the Pancreas.
Uric Acid and the Purin Bodies.
Oxaluria, Phosphaturia, and Urinary Calculi.
Albuminuria and the Treatment of Nephritis.
Glycosuria and Diabetes.
Acidosis and Acid Intoxications.
Intestinal Intoxications.
Irregular Action of the Heart.
The Vasomotor System in Disease.
On Cyanosis.
Vitamines and Calcium Salts.

Full Cloth $2.50

The Macmillan Co. of Canada, Limited
70 Bond Street - Toronto

The Peculiar Advantage of the
Marvel "Whirling Spray" Syringe



Prominent physicians and gynecologists everywhere recommend the MARVEL Syringe in cases of Leucorrhea, Vaginitis, and other vaginal diseases. It always gives satisfaction.

is that **The Marvel,** by its centrifugal action, **dilates and flushes** the vaginal passage with a volume of whirling fluid, which smooths out the folds and permits the injection to come in contact with its entire surface.

¶ **The Marvel Company was awarded the Gold Medal, Diploma and Certificate of Approbation by the Societe D'Hygiene de France, at Paris, October 9, 1902.**

ALL DRUGGISTS AND DEALERS IN SURGICAL INSTRUMENTS SELL IT

FOR LITERATURE ADDRESS

Marvel Company
25 West 45th Street, New York

for Hemmorhoids

ORIGINATED, MANUFACTURED, AND OWNED BY AMERICANS

COMPOSITION:

Medeol (Resorcinated Iodo-Bismuth)	0.25 gm.
Zinc Oxid	0.50 gm.
Acid Tannic	0.15 gm.
Balsam Peru	0.16 gm.
Cocoa Butter q.s. ft. suppos. No. 1	

Physicians who have used them say "MEDEOL Hemorrhoidal Suppositories are superior to any on the market, whether of domestic or foreign manufacture or origin.

For Sale by Druggists or direct.

All orders for Canada and Newfoundland must be sent to
Sales Limited, 384-6 Yonge St., Toronto, Ont.

Free samples to Physicians on request
Medeol Co., Inc., 802 Lexington Ave., New York, U.S.A.

GOLD MEDAL
International Congress of Medicine, 1913

The Original
COCAINE-FREE Local Anæsthetic

NOVOCAIN

(Six to Seven Times Less Toxic Than Cocaine)

Tablets A. For Infiltration Anaesthesia, per tube,	60c	Tablets E. For Dental Anaesthesia	per ube, 50c
" B. For Conduction Anaesthesia,	60c	" F. Without Adrenalin.	
" C. For Spinal Anaesthesia - -	$1.10	Powder. 5-Gramme Bottles -	$2.40

LITERATURE AND FULL TECHNIQUE ON REQUEST

THE SACCHARIN CORPORATION, LIMITED
(Pharmaceutical Department)

36-37 Queen St., London, E.C. 4 **Canadian Agent: W. Lloyd Wood, 64-66 Gerrard St. East, Toronto**

ERGOAPIOL (Smith)

For
AMENORRHEA
DYSMENORRHEA
MENORRHAGIA
METRORRHAGIA
ETC.

ERGOAPIOL (Smith) is supplied only in packages containing twenty capsules.

DOSE: One to two capsules three or four times a day.

SAMPLES and LITERATURE SENT ON REQUEST.

MARTIN H. SMITH COMPANY, New York, N.Y.,U.S.A.

To Relieve Pain

is not only the first consideration of the physician, but almost invariably the most urgent and insistent demand of the patient. It is, therefore, a matter of great satisfaction to many medical men that in

PHENALGIN

they have an analgesic that enables them to meet this demand so effectually without embarrassing the heart or circulation, disturbing the digestion, suppressing the secretions, producing constipation, or presenting the slightest danger of creating a drug habit.

Countless physicians, therefore, are to-day discarding the opiates and turning to Phenalgin as the safest and most dependable anodyne for relieving *headaches, neuralgia, rheumatism, myalgia, lumbago, migraine, la grippe,* and painful conditions generally.

No narcotic blank required.

"It is the logical supplanter of the opiates"

GEO. C. COOK & CO., Inc.
59 Bank St., New York

Canada's Leading Hotel

700 Rooms

450 with Bath

European Plan Exclusively

CENTRALLY located in the heart of the shopping and theatrical districts

THE WINDSOR

is unsurpassed for beauty and convenience. Professional men will find here the exclusiveness and comfort that they prefer.

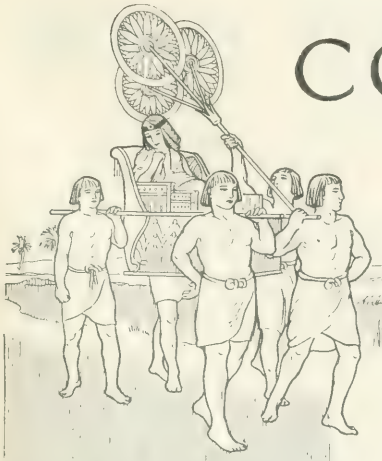
THE WINDSOR

Dominion Square, Montreal

Canada Food Board License
No. 11-11681

JOHN DAVIDSON
Manager

COMFORT



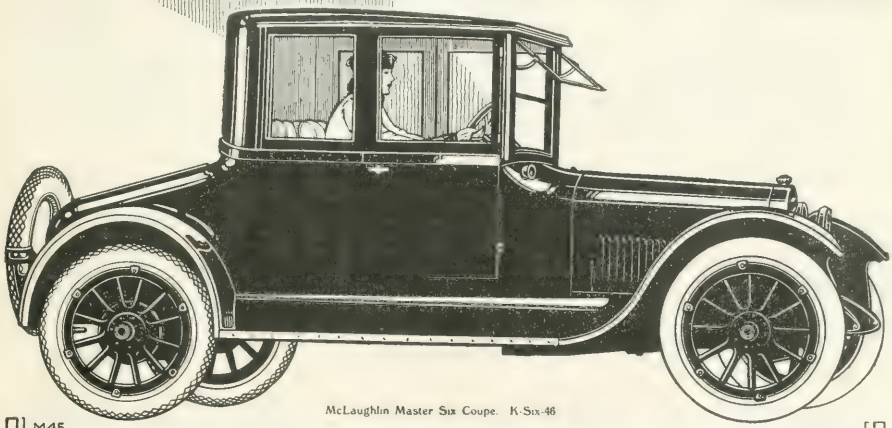
The Closed Car is growing in favor among men who have used cars for several years.

Always comfortable in all extremes of climate, the Coupe is the ideal car where a limited passenger carrying capacity is needed.

For business and professional needs or for social or patriotic duties the McLaughlin Master Six Coupe is the choice of the "Motor Wise."

McLAUGHLIN MOTOR CAR CO. LIMITED
OSHAWA, ONT.

BRANCHES IN LEADING CITIES *DEALERS EVERYWHERE*



McLaughlin Master Six Coupe. K-Six-46

M45

The McLAUGHLIN MASTER SIX

See the New McLaughlin Models at the nearest McLaughlin Show Rooms

NEW BOOKS

THE MACMILLANS IN CANADA

Wheeler's Handbook of Medicine.—*Jack.*

Fifth Edition, 552 pages, excellent diagrams, bound in cloth - - $4.00

By WM. R. JACK, B.Sc., M.D., F.R.F.P.S.G.; Physician to the Glasgow Royal Infirmary: Lecturer in Clinical Medicine in the University, Glasgow.

A Manual of Midwifery.—*Eden.*

Fifth Edition. 1919. 747 pages, with 5 plates and 369 illustrations in the text, bound in cloth - - - - - - - - - $5.25

By THOMAS WATTS EDEN, M.D., C.M., Edin., F.R.C.P., Lond., F.R.C.S., Edin., Major R.A.M.C. Obstetric Physician and Lecturer on Midwifery and Gynæcology, Charing Cross Hospital; Consulting Physician to Queen Charlottes Lying-in Hospital; Surgeon to In-Patients, Chelsea Hospital for Women.

Diseases of the Skin.—*Sequeira.*

Third Edition. 1919. 644 pages, with 52 plates in color and 257 text figures, bound in cloth - - - - - - - - $12.00

By JAMES H. SEQUEIRA, M.D., London; F.R.C.P. London; F.R.C.S. Eng.; Physician to the Skin Department and Lecturer on Dermatology at the London Hospital: in charge of Queen Alexandra's Department for Light Treatment: Consultant for Diseases of Skin to Military Hospitals in London, etc., etc.

On Facial Neuralgia and Its Treatment.—*Hutchison.*

With Especial Reference to the Surgery of the Fifth Nerve, and the Gasserian Ganglion. 216 pages, with illustrations and diagrams, 1919, bound in cloth - - $5.00

By J. HUTCHISON, F.R.C.S., Surgeon to the London Hospital; Examiner in Surgery and late Hunterian Professor at the Royal College of Surgeons.

The Urethroscope in the Diagnosis and Treatment of Urethritis.—*Lumb.*

A Contribution to Urethroscopy. Illustrated by 40 original illustrations, 1919, bound in cloth - - - - - - - - $2.75

By MAJOR N. P. L. LUMB, O.B.E., R.A.M.C. (T.C.); Author of "Systematic Treatment of Gonorrhœa."

The Macmillan Company of Canada, Limited

St. Martin's House ——— *70 Bond Street, Toronto*

NEW BOOKS

THE MACMILLANS IN CANADA

X-Ray Observations for Foreign Bodies and their Localisation.—*Gage.*

1919, excellent illustrations and diagrams, bound in cloth - - - $1.75

By CAPTAIN HAROLD C. GAGE, A.R.C., O.I.P.; Consulting Radiographer to the American Red Cross Hospital, Paris; Radiographer in Charge Military Hospital, V.R. 76, Ris Orangis, and complementary hospitals.

The Pituitary.—*Bell.*

1919, 348 pages, 190 illustrations and diagrams - - - - $9.00

By W. BLAIR BELL, B.S., M.D. London, etc. Gynæcological Surgeon; Royal Infirmary, Liverpool; Lecturer in Clinical Gynæcology in the University of Liverpool, etc.

Physiological Principles in Treatment.—*Brown.*

1920, Fourth Edition, 408 pages - - - - - - $2.50

By W. LANGDON BROWN, M.A., M.D., Cantab., F.R.C.P.; Assistant Physician to St. Bartholomew's Hospital and Physician to the Metropolitan Hospital, etc.

Food and Principles of Dietetics.—*Hutchison.*

Fourth Edition, Third Impression, 1919, 617 pages, with plates and diagrams $5.00

By ROBERT HUTCHISON, M.D. Edin.; F.R.C.P.; Physician to the London Hospital; Physician in charge of out-patients to the Hospital for sick children, Great Ormond Street, etc.

Sanitation for Public Health Nurses.—*Hill.*

1919, 211 pages - - - - - - - - - $1.50

By HIBBERT WINSLOW HILL, M.B., M.D., D.P.H.; Late Director, Division of Epidemiology, Minnesota; State Board of Health and later, Director, Institute of Public Health; M.O.H. of London, Ontario, and Professor of Public Health, Western University, etc.

Papers on Psycho-Analysis.—*Jones.*

Revised and enlarged edition, 1918, 715 pages - - - - - $6.50

By ERNEST JONES, M.D., M.R.C.P. London; President of the London Psycho-Analysis Society; late Associate Professor of Psychiatry at the University of Toronto.

The Macmillan Company of Canada, Limited

St. Martin's House ——— *70 Bond Street, Toronto*

In **POST-FEBRILE ANEMIA** and **Convalescence** from **Acute Illness,** where hermatinic reconstructive treatment is indicated

Hemaboloids

is especially adapted. It is bland, palatable and easily acceptable to the irritable gastric mucous membrane, for it is axiomatic that organic iron is assimilable iron and free from all harsh or constipating effects.

¶ HEMABOLOIDS is fundamentally a food iron—based on the concentration of iron bearing vegetable nucleo-proteins. Its blood building and restorative properties are increased and assured by the accompanying ingredients—bone-marrow and nuclein.

¶ When the iron action must be enhanced by adjuvants **HEMABOLOIDS ARSENIATED WITH STRYCHNIA** may be used, even in cases of debilitated digestive powers.

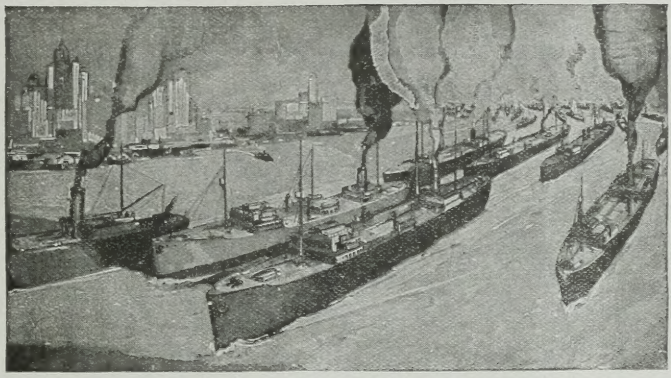
CONTAINS 1/40 gr. Arsenious Acid and 1/80 gr. Strychnia to tablespoon.

Samples and Literature on request

The Palisade Mfg. Company

YONKERS, N.Y.

Canadian Agent: R. L. GIBSON, 88 Wellington St. West, Toronto



One of the Largest Merchant Fleets in the World

THE magnificent fleet of "tankers" of the Standard Oil Co. (New Jersey) is able to bring the finest raw materials for use in the manufacture of Nujol from all corners of the earth.

The expert chemists of the Nujol Laboratories of the Standard Oil Co. (New Jersey) have been able to produce absolutely pure Liquid Petrolatum of every viscosity from a water-like fluid to a jelly.

The viscosity of Nujol was determined after exhaustive research and clinical test, and is in strict accord with the opinions of leading medical authorities.

Sample and literature based on the writings of Sir Arbuthnot Lane and other eminent authorities will be sent gratis. Mail coupon below.

Nujol Laboratories, Standard Oil Co. (New Jersey), 44 Beaver St., Room 77 . New York.
Please send me booklets marked.

☐ "In General Practice"
☐ "A Surgical Assistant"
☐ "In Women and Children"
☐ Also Sample

Name .....

Address .....

THE BORDEN COMPANY LIMITED
EAGLE BRAND
Trade Mark of THE BORDEN COMPANY LIMITED
GAIL BORDEN
EAGLE
BRAND
by which their PRESERVED MILK will hereafter be designated and for additional protection against imposition each Label will bear the signature.
Gail Borden
THE BORDEN COMPANY LIMITED
MONTREAL, CANADA.

When Mother's Milk Fails

resort must be had to so-called artificial feeding, for which cow's milk is universally employed. The greatest and most important factor in the digestion of cow's milk is the size and consistancy of the curd formed in the stomach.

Experiment 62—Condensed Milk. Four ounces of Eagle Brand Condensed Milk were added to 15 ounces of water. The mixture was taken rapidly and returned in one hour. About 2 to 3 ounces of curd were returned and gradually sank to the bottom. The curds were soft and flocculent, slightly larger and more distinct than in the previous experiments with condensed milk (Experiments 56 and 57) in which the dilution was greater. They were characteristically uniform in size and like a moderately coarse sand, but not a single curd was larger than a large grain of sand.

(The Coagulation of Cow's Milk in the Human Stomach, Joseph Brennerman, M.D., Archiv. of Ped., Feb., 1917.)

BORDEN'S EAGLE BRAND when properly diluted compares most favorably with mother's milk.

It's digestability as shown by the above experiment is assured.
Sample, literature,, analysis on request.

BORDEN MILK COMPANY, LIMITED

Montreal Vancouver

Borden's

EAGLE BRAND